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American Vegetable Grower

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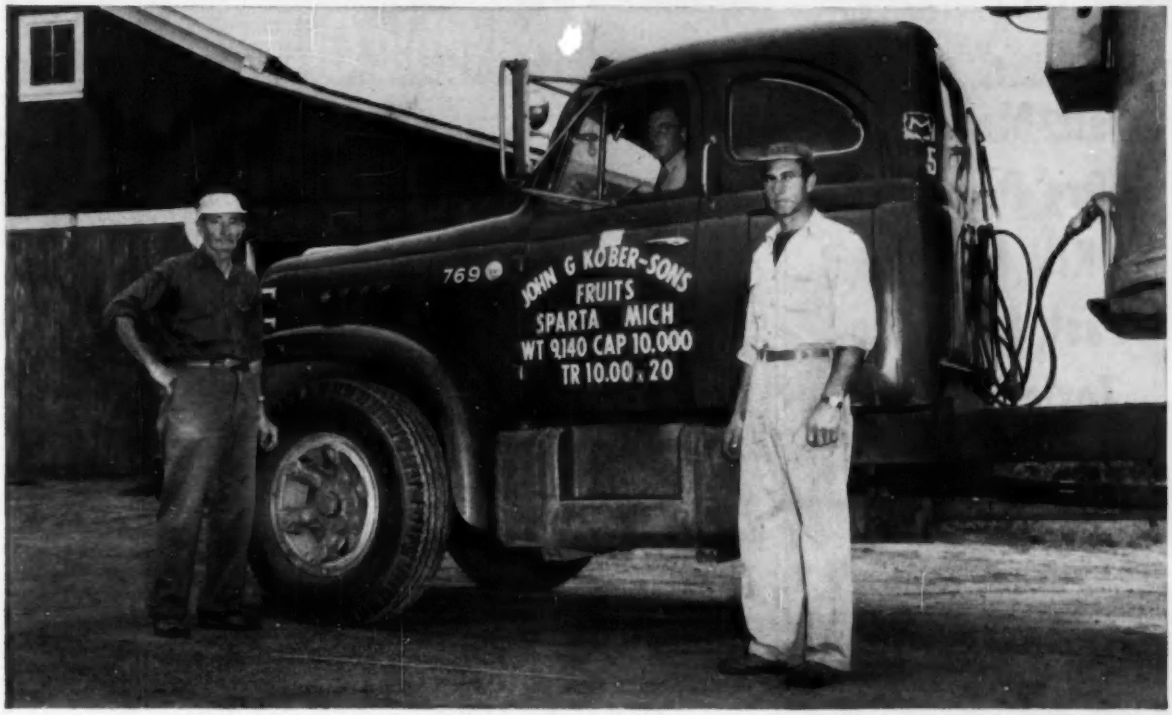

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FAST KILL FOR WIDE RANGE OF INSECTS

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American Vegetable Grower

Reg. U.S. Pat. Off.
Commercial Vegetable Grower
Market Growers Journal

VOL. 8 No. 6

JUNE, 1960

Cover photograph by Jerome Wexler shows irrigating snap beans.

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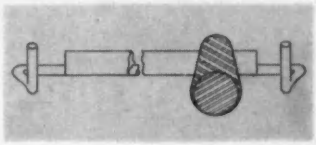
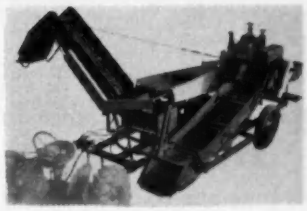


Provide positive, gentle handling of potatoes. Thick rubber covering is permanently bonded to metal links.



MODEL 30 Especially designed for medium acreage requirements, the Model 30 gives you every time and cost-saving advantage of mechanical harvesting.

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Now, more than ever, DITHANE M-22 is your most effective protection against tomato diseases, and your greatest assurance of higher yields and bigger profits. This time-proved 80% maneb fungicide controls early and late blight, anthracnose, gray leaf spot and septoria leaf spot on tomatoes. It also improves the vigor and color of the plants . . . making bigger yields possible. To kill fruitworm, hornworm, pinworm and psyllid on tomatoes, use RHOTHANE insecticide . . . another field-proved product from your partner in crop protection. See your dealer now for dosage and timing information.

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LETTERS TO THE EDITOR

Seed Series Needed

Dear Editor:

A series of articles appeared in your magazine entitled *Know Your Vegetable Seeds* by Victor Boswell. Since we do not have all the issues on hand to make a complete set, I wonder if it would be possible for you to send us this series. We plan to use it in training our future seed laboratory technicians.

Philadelphia, Pa. Ralph H. Hofmann
W. Atlee Burpee Company

We are happy to send Seedsman Hofmann a set of tear sheets of this series. Unfortunately, our supply of copies is now exhausted.

Syrian Cucumber

Dear Editor:

A few years ago a friend gave me seeds of a plant native to Syria and Lebanon which he called *Mettha*, or Syrian cucumber. This plant is practically unknown here in America but is an important article of food in the Middle East.

When fully mature, the fruit may be as long as 18 inches and 4 inches in diameter. At this stage it is crisp and delicious with very small seeds. The outside of the fruit is mottled or has light green stripes. The flavor is quite different from that of our cucumber, and it tastes better unpeeled.

The foliage is nearly like that of the cantaloupe, which makes me doubt that it is a species of cucumber at all. When ripe the fruit has a cavity in the center. Culture is the same as for the American cucumber, except that the seeds are more apt to rot if planted in cold, wet soil.

Wichita, Kans. William Vant Leven

A Vote for Soil Analysis

Dear Editor:

One of the first fertilizer deficiencies that occurred in agriculture was nitrogen. Many things have been used to supply enough nitrogen to grow crops: manure, legumes, and waste materials.

The next pronounced deficiency that developed was phosphorus. Then it was found that when yields grew large there was not enough potash. In due time, industry, with the aid of researchers and growers, met this problem successfully.

Four additional elements are now predominately occurring as mineral deficiencies in our soil, namely, magnesium, manganese, boron, and molybdenum.

Remember that these deficiencies vary from field to field and from greenhouse to greenhouse. It is a scientific fact that each individual crop requires a different amount of these elements.

Since it is now known that soils vary so much in their nutritional-supplying power to the plant and the plant is so dependent upon these nutritional elements, it is important for each grower to take into consideration soil analyses in growing his crops.

The technique for determining soil reaction (pH) and available calcium, magnesium, nitrogen, phosphorus, potash, iron, manganese, boron, copper, zinc, molybdenum, and aluminum has become so standardized and so economical in cost that no successful grower can ignore the potential value of this work.

Elkton, Md. Jackson B. Hester

MARKETS...

TRENDS AND FORECASTS

Special Report

AMERICAN VEGETABLE GROWER, JUNE, 1960

GREENHOUSE GROWERS FACE INCREASING COMPETITION. Huge tomato growing developments in California, Arizona, and Mexico further threaten U.S. glasshouse growers. Transportation costs of 4 cents per pound from California and an import duty of 4 cents per pound on tomatoes from Mexico offer little deterrent to shipping these field-grown tomatoes right into the greenhouse growers' own midwestern markets.

MARKETING COSTS FOR VEGETABLES DECREASE. After climbing upward all during the 1950's, marketing costs decreased in 1959. Main reasons: Reduction in certain rail rates, wider use of fiberboard containers, more direct buying, more productivity per worker in marketing, and more self-service at the retail level.

CANNING CROP PRICES CAN DIFFER WITH AREAS. Why is this so? Main reasons are: Differences in quality, effectiveness of organized grower bargaining groups, and alternative crops for growers to produce. Canners must pay a certain minimum price which will attract enough production to fill their needs. In areas where growers have a number of alternative crops which can give them good returns, contract prices paid by canners for a certain crop are likely to be higher compared to areas where alternatives are few.

POTATO PROCESSING ON THE INCREASE. At least four new potato processing plants are scheduled to be built this year in the Idaho-Colorado-Oregon area. These are for increased output of chips, frozen French fries, and dehydrated mashed potatoes. About 20% of the total national crop went for processing last year.

WHY ACREAGE-MARKETING GUIDES FOR VEGETABLE GROWERS? These provide background information as well as a key to the coming season's marketing prospects. Actually growers as a whole would benefit immensely by setting their production according to these guides. What is needed is a means of insuring group action.

IDAHO GROWERS MEET THE POTATO MARKETING CHALLENGE. The Idaho potato growing industry has undergone two big changes in the past decade. One is the trend toward more consumer size packaging, product branding, and sizing of fresh potatoes; the other is a tremendous increase in the state's processing industry. This combination has resulted in a greater net return to growers and an expansion of the Idaho potato growing industry.

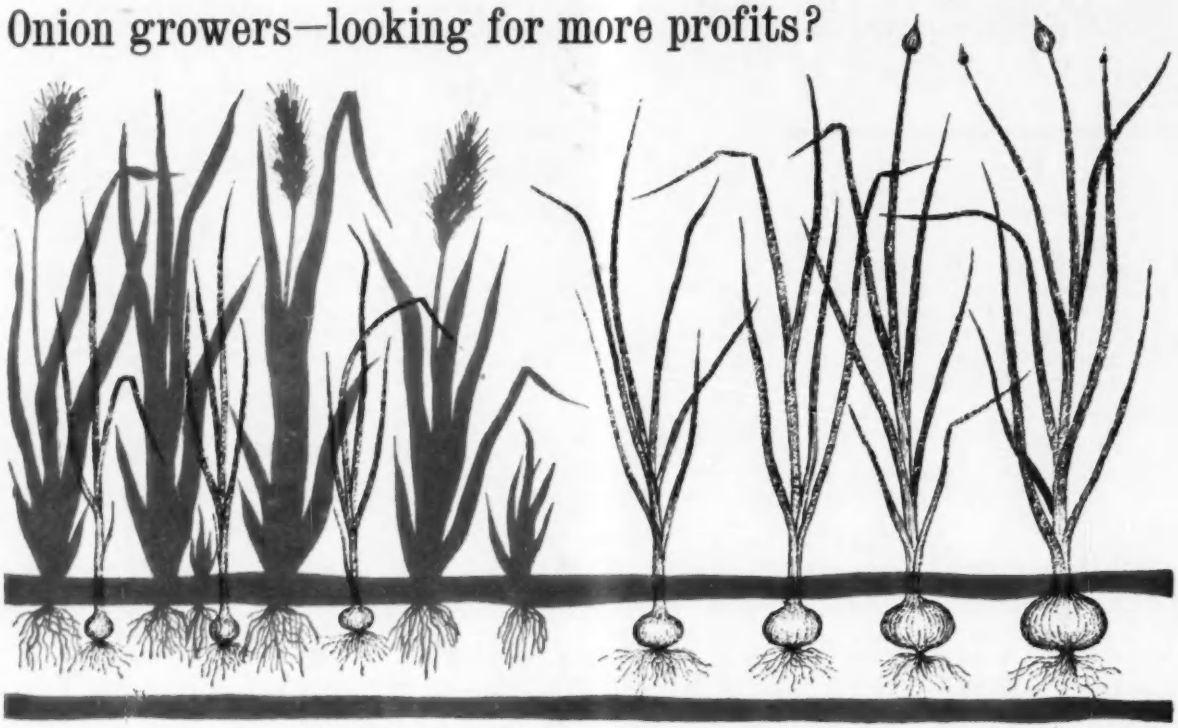
VEGETABLE PROCESSING SITUATION SHOWS SOME CHANGE COMPARED TO 1959. Recent estimates show that planted acreage of the seven principal processing crops is about 2% above last year and 7% less than the average over the past 10 years. Most areas have contracted tomatoes at about or slightly under last year's price, sweet corn at a slightly lower price, and snap beans at about the same price.

THE DISAPPEARING INDEPENDENTS. This may be one result of a prediction by USDA experts. They say that the truly independent retail food store will disappear within 10 years if the present expansion and merger rate of chains continues.

ADVISORY COMMITTEE ON USDA VEGETABLE MARKETING RESEARCH LISTS PROBLEMS TO RECEIVE TOP PRIORITY. These are: To develop methods for better measurement of market quality; to improve grade standards for processed vegetables; to investigate chemical composition of vegetables; to better define consumer quality standards; and to breed varieties for improved processing and market quality.

NOW IT'S "INSTANT" SWEETPOTATOES FOR THE BUSY HOUSEWIFE. A process for mass producing "instant" sweetpotato flakes is being tested by USDA research workers. Perhaps this development may mean benefits to the sweetpotato growing industry similar to those now enjoyed by the Irish potato business. More and better processing techniques have helped to level the decline in per capita consumption of white potatoes in recent years.

Onion growers—looking for more profits?



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Chloro IPC is an extremely effective herbicide for use in pre- or post-emergence applications. It prohibits many weeds in onions grown in muck or mineral soils.

Chloro IPC is available as a 4 pound per gallon liquid emulsifiable concentrate used for preparing dilute emulsions for application just prior to emergence, or after emergence during the loop stage of growth or directed post-emergence sprays. Granular Chloro IPC is also available for application where its use has been established. Application must be avoided during the flag stage of the onion.

Increases yield—The use of Chloro IPC in onions has resulted in net gains of $30 to $54 per acre. Reduction of weeds makes more light, space, nutrients and moisture available to the onion crop.

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American Vegetable Grower

Smooth, firm spears—the kind buyers and consumers like. White butts are cut off during packing.

How to Grow BETTER SPEARS

If you . . . like New Jersey growers . . . think your production of quality asparagus is down, the ideas given here will help you

By W. BRADFORD JOHNSON
Rutgers University, New Brunswick, N.J.

LAST season, New Jersey growers had a total of 31,500 acres of asparagus, culminating a surge of planting of this succulent crop since World War II.

Of the total crop, 21,500 acres were grown for processing; 10,000 for fresh market. The contract price in 1959 for processed asparagus was 10½ cents a pound. Fresh market price averaged $3.75 for the 30-pound crate of 2½-pound bunches. The average market price was higher than in 1958 but there was a decrease in production.

Statistics tell us that yields have not changed very much. However, some growers report a decline in production. Recently a group of growers was asked what they felt was causing their decreased yields. The majority named damage inflicted by cutters. A nick from a cutting knife could render unfit for sale an adjacent spear below the surface. The number of crooked or otherwise damaged spears might run as high as 25 to 30% of the yield, growers estimated.

Processing growers blamed decreasing yields on the shorter season caused by earlier cutoff dates at the processing plants.

Growers saving their own seed in many cases are not helping yield. Seed saved without regard to productiveness of individual plants can easily result in less productive offspring.

Replanting asparagus on old asparagus fields leads to reduced plant stand and vigor, with a resulting loss of yield. Fusarium rot has been identified by workers at New Jersey Agricultural Experiment Station as a cause of the replant problem. Fusarium is known to persist in the soil for 10 or more years.

Rust is the only other recognized disease of asparagus. Rust occurs in seven- to 10-year cycles, and can cause considerable damage, especially to one- or two-year-old beds. Only rust-resistant strains of Washington variety should be planted in New Jersey.

Other factors blamed for poor yields were: Cultivation practices destructive to the plants, poor soil type, dry years, soil nutrient deficiencies, and cool spring weather resulting in insufficient heat units to allow the crop to push out as many spears during the normal length of the cutting season.

Many New Jersey growers have changed the spacing of asparagus plants. Plants used to be set 18 inches apart in rows spaced 5 feet apart. Today, a number of growers are setting crowns 12 inches and some as close as 9 inches in the row. Rows are now commonly spaced 4½ feet apart. With closer spacing, yields can be expected to be higher than with the wider spacing, especially during the first half of the life of the bed.

Close spacing experiments have been conducted at Riverton, N. J., by Dr. Charles Moran, of Campbell Soup Company. He reported great yield increases at a 6-inch spacing and feels that although the length of life of the bed may be reduced, it still may be possible to get the equivalent of a 15-year yield in a 10-year period. He says that spear size is not reduced at the close spacing, based on six years of cutting records.

Current research at New Jersey station is covering a number of production and marketing problems.

(*Continued on page* 31)

Do TWO JOBS at ONE TIME

Apply fertilizer to your fields at the same time you irrigate. Here's how you do it

By L. J. BOOHER and R. G. CURLEY
University of California, Davis

THE practice of applying fertilizers with irrigation water is being used to a considerable extent in California. This provides a convenient and economical method of distributing fertilizers and under certain conditions works quite satisfactorily.

Fertilizers are injected into irrigation water applied by surface methods such as furrow irrigation and spray irrigation using sprinkler systems. Since the fertilizer goes where the water goes—the uniformity of application of the fertilizer will be only as good as that of the irrigation water.

Nitrogen, phosphorus, and potassium fertilizers are the ones most commonly applied with the water. The type of fertilizer used must be fully soluble in water and must not be corrosive to the irrigation pipelines and distribution system.

Most nitrogen compounds—including ammonium sulfate, ammonium nitrate, calcium nitrate, and urea—are readily soluble in water and can be injected into the irrigation water when completely dissolved. Nitrogen in the aqua or anhydrous ammonia form is widely used with surface irrigation methods, but is not practical to use with sprinkler irrigation because of excessive diffusion losses.

The greatest benefit in applying nitrogen with the irrigation water is obtained where split applications produce higher yields than a single application of the entire seasonal requirement for the crop.

Phosphorus compounds—except phosphoric acid and ammonium phosphate—are only slightly soluble and are especially corrosive to brass and bronze fittings. Most potassium salts are water soluble. However, these fertilizers are generally applied before or during planting.

The placement at the time of seeding is important. For example, band placement near the seed of lettuce, onions, sweet corn, cole crops, and peas, produces better results than broadcast applications such as would be obtained where the fertilizer is applied with the irrigation water.

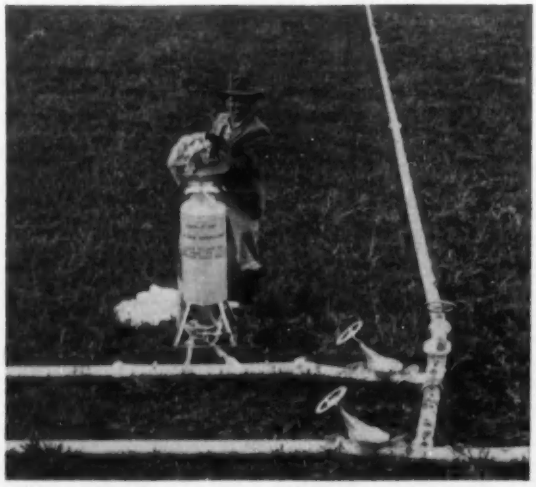
Fertilizers are applied into gravity flow systems using surface irrigation methods by dripping or injecting the materials in a liquid or gaseous form into the water. The point of application may be into an open head ditch or into a standpipe if a concrete pipeline is used.

Accurate methods of metering the amount of fertilizer must be used in order to obtain the correct rates of application. For this reason, the fertilizer distributors, who are experienced in this type of work, usually install and adjust the metering devices.

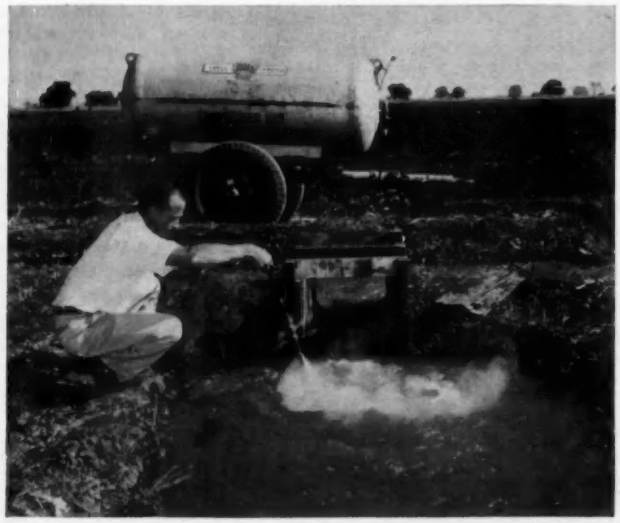
Fertilizers carrying free ammonia will cause a precipitate of calcium or magnesium carbonate to form on the inside of concrete pipelines. A sodium polyphosphate such as Calgon is usually added to the water to inhibit the formation of these precipitates which might cause clogging of the pipelines.

The injection of fertilizers into sprinkler systems can be done in a number of different ways. Where centrifugal pumps are used for lifting water from shallow wells, streams, ponds, or sumps, the fertilizers are sometimes injected into the

(*Continued on page 37*)



Fertilizer and water are mixed by Prizer applicator which is connected to sprinkler system.



Ammonia gas is being applied with injection manifold to irrigation water in open ditch.

Don't be too late with too little! Plan your irrigation ahead.

KEEP YOUR TOMATOES COOL

Tomatoes need 18 to 20 inches of water for full development and keeping cool. If you're a midwestern grower make sure you irrigate IN TIME

By VICTOR N. LAMBETH
University of Missouri, Columbia

WATER makes up more than 85% of the composition of the tomato plant and fruit. But more significant in terms of total water usage is the water required to cool the plant by transpiration. The total seasonal needs of 18 to 20 inches must come from stored soil moisture and season rainfall, or from irrigation.

Although the tomato plant can be repeatedly wilted and still survive long periods without rain by reason of its deep roots tapping large soil moisture reserves, it cannot be considered a drought-resistant crop. Experimental data show that when the available moisture supply is depleted below 25% of the soil's field capacity, the tomato suffers.

These water deficiencies can only result in decreased physiological activity, reduced yields, smaller fruit, and lowered quality.

Deficiency symptoms range from slowed growth and wilting of foliage to dropping of buds and flowers and severe blossom-end rot of the fruit where the deficiency coincides with heavy fruit set and reduced uptake of calcium. These symptoms are distress responses of the plant and they occur too late to serve as an effective guide for timing irrigations.

During the prolonged drought in Missouri in 1953, large differences in daily water use occurred depending largely on the stage of crop development, intensity and duration of sunshine, and level of moisture stress.

In early June with small but actively-growing plants and average day temperatures near 80° F., approximately 1/10 inch of water was used daily. Water usage increased with larger vine growth, rapid fruit development, and in irrigated plots. During the period July 17 to August 5, with maximum day temperatures near 100° F. and with fruit-loaded vines, the water needs increased to ⅓ inch per day.

Even with a full soil reservoir at transplanting time and normal precipitation in June, the available soil moisture will usually be depleted below 25 to 40% range before July 15.

In Missouri, this coincides with the lowest rainfall frequency and the highest daily demands by the crop. This helps to explain why two or three moderate to heavy irrigations properly timed before depletion of the soil reserves may make the difference between economic loss and a profitable crop of quality fruit.

The interval between irrigations and the amount of water to be applied each time to refill the soil reservoir depends largely on the depth of effective rooting and the soil texture. The schedule required during the heavy fruiting—high requirement period of July and August in the Midwest (assuming no rain) would approximate the following:

SUGGESTED IRRIGATION SCHEDULE FOR MIDWEST

Depth of Rooting	Sandy and Gravelly Soils		Loam and Clay Soils	
	Days	*Inches*	*Days*	*Inches*
Shallow bedrock, hardpan	4- 6	1-2	6- 9	2-3
Moderate to deep open soil	7-12	2-3	12-18	3-4

Irrigation based on the premise of 1 to 1½ inches of total water use per week frequently results in over-irrigation in May and early June and some deficiencies in July and August. Since growth and fruit set is impaired when the available soil moisture drops below 25% of the soil's field capacity, it is desirable to keep a running inventory of the soil moisture supply in order to detect an approaching moisture deficiency.

This is conveniently and econom-

(*Continued on page 33*)

STATE NEWS

- **$70 Million in Cuban Produce Scheduled for Import**
- **Eastern Consumers Like Banana Squash in Market Test**

Importing Cuban Produce

ILLINOIS—An estimated $70 million in vegetables and fruits will be imported from Cuba for distribution throughout the United States and North America by La Preferida Tropical Products, Inc., South Water Market, Chicago.

Frank O'Grady, secretary of the midwestern import company with distribution outlets throughout the U. S., reports plans to open additional outlets for the Cuban Import Division in 16 states, including every major city in the country.

The import firm will work in close cooperation with the Cuban government and Agrarian Reform Institute to develop a co-ordinated program which will assure the supremacy of Cuban products in the export market by stressing uniform high quality, attractive packaging, and speed of delivery, O'Grady said.

Cal-Can Buys Fourth Cannery

CALIFORNIA—Earl Blaser, president of California Canners and Growers, Inc., a grower-owned processing co-operative, recently announced the purchase of San Jose Canning Company.

Organized in 1919, San Jose Canning Company packs tomato and tomato products and green beans under the "Red Pack" label. Cal-Can's other processing divisions include Richmond-Chase Co., Filice & Perelli Canning Co., and Thornton Canning Co.

Expanding Markets

IDAHO—According to Scott A. Walker, agricultural economist at University of Idaho, marketing studies at the university indicate that Idaho's potato processing industry will double in size during the next seven years and the market for fresh potatoes will rise.

"At that time, Idaho should be processing annually 1 billion pounds of potatoes for food products, exclusive of starch," Walker reports. "It would also be selling each year about 50,000 cars or 2 billion pounds of high quality, highly uniform fresh potatoes."

By the end of seven years, Walker figures, the percentage distribution of Idaho potatoes will be 55 to 60% for the fresh market, 10 to 15% for starch, and 28 to 30% for processed food uses.—*Ernest W. Fair.*

Consumers Like Banana Squash

DELAWARE—In a trial conducted by University of Delaware marketing specialists, Banana Squash was successfully marketed in six supermarkets of Hearn Brothers Company.

Banana Squash, a new vegetable to eastern supermarkets, is now produced in California for both fresh market and processing. It has a fine texture, bright orange-colored flesh, and excellent keeping qualities. Consumers reported they liked its nut-like flavor.

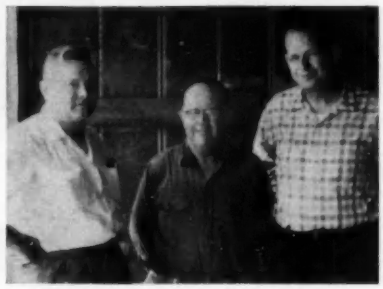
The regular pink strain of Banana Squash used in the tests averaged 16 to 18 pounds each. They were prepared for sale by sectioning into 1½- to 2-pound consumer-sized pieces, deseeded with a kitchen scoop, and packaged in cellophane lettuce bags for display in refrigerated cabinets.

Experimental plots of the vegetable were grown on the University of Delaware farm during the 1958 and 1959 seasons. Total production costs and cultural requirements are similar to those of Boston Marrow Squash, already grown in the area for processing. Yields ranged from 8 to 10 tons per acre. Estimated returns to growers are 2½ cents per pound f.o.b. or 3 cents per pound delivered to the chain store. Initial net returns in the early years of production are estimated at $225 to $300 per acre.

Growers who are contemplating production of Banana Squash are advised to make prior arrangements with retail chain store buyers or other outlets for its sale.

More Tonnage Needed

FLORIDA—Problems of managing a vegetable co-op were discussed recently at Pahokee with your editor. John Causey, assistant county agent, Palm Beach County; Joe Waddell, vice-president, and Ed Thomas, sales manager, of Lake Okeechobee Farmers Co-op, Pahokee, furnished expert information.

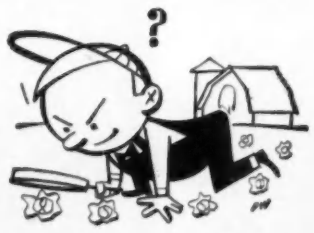


Left to right: Causey, Waddell, Thomas

The Lake Okeechobee co-op has the physical capacity to handle one-third more tonnage, this trio claims, and needs high caliber growers in order to increase its output. Handling more packages would lower the cost per package, they say.

The co-op is a federation of smaller producers in the Belle Glade area and handles mostly beans, pepper, and corn. During the summer season, Thomas manages the Cayuga Producers Co-op at King Ferry, N.Y.—*R. T. Meister.*

YOU be the EXPERT!



AN occasional melon plant in the field was wilting. Larry Evans carefully dug out several but could find no sign of soil insects, fertilizer damage, or mechanical injury. A single leaf wilted first and then one vine and finally the entire plant. The soil was moist, the field well-drained, and weather conditions favorable. Since he had bought seed of a wilt-resistant variety, Evans was perplexed. What is your diagnosis?

Answer on page 35

Carew Receives Fellowship

MICHIGAN—Dr. John Carew, professor of horticulture at Michigan State University and associate editor of AMERICAN VEGETABLE GROWER, has received a business fellowship to study produce procurement at the Kroger Company.

From June 13 to July 20 Dr. Carew will work at all levels within the firm analyzing how a large chain store makes produce procurement decisions, who makes them, and what policies are planned by top executives for the future. He was chosen for the fellowship by the Foundation for Economic Education.

AFBF Appoints Stempfle

NEW YORK—W. S. Stempfle, secretary of New York Canning Crop Growers Co-operative, Inc., Batavia, recently attended the first meeting of the advisory committee of American Agricultural Marketing Association, a newly formed subsidiary of American Farm Bureau Federation.

Objectives of the new subsidiary are: To assist state farm bureaus in organizing and servicing bargaining associations; provide the means to co-ordinate the efforts of state and regional bargaining associations; conduct research, analyze contracts, and furnish information on supply, demand, and contract prices; and to discuss and negotiate contract terms, quality control, and related matters with national and regional processors.

Stempfle was appointed to the advisory committee by AFBF president Charles Shuman. Also serving on the committee are: Ralph Bunje, manager, California Canning Peach Association; Cameron Girton, California Canning Pear Association;

A. W. Chambers, secretary, Utah State Canning Crops Association; A. W. Matthews, manager, Canning Growers of Ohio; Wm. Hancock, New Jersey Vegetable Growers, Gene Coe, manager, Washington Asparagus Association; Kenneth Robinson, Eastern Fruit Marketing Cooperative; and Berkley Freeman, manager, Great Lakes Cherry Producers Marketing Association.

Study Changes in Marketing

NEW MEXICO—Three marketing economists recently conducted a two-week survey of the wholesale market structures and channels for fresh vegetables and fruits in the El Paso and Albuquerque areas. Purpose of the study was to identify changes in marketing channels and the structure of wholesale vegetable and fruit markets which have occurred during the past 20 years and to provide measures of these changes.

Conducting the study were Dr. James Stallings, agricultural economist, and Jere R. Boyer, extension economist in vegetable and fruit marketing, both of New Mexico State University, and John Haynes, Marketing Research Division, AMS, Washington, D. C.

Fruit and Vegetable Division of AMS plans to use results of the study in evaluating its service programs. Changes in marketing practices and channels through which fruits and vegetables are moving are raising serious questions as to the adequacy of the present market news, inspection and regulatory programs.

Use Lindane on Pickle Crop

KENTUCKY—Because of its low cost, satisfactory performance, and safety (residue can easily be washed off), lindane has been recommended for use on commercial pickle crops by University of Kentucky Experiment Station.

In tests conducted last season in Grayson County, 1% lindane dust gave good control of cucumber beetle, stinkbugs, aphids, and pickle worms. Researcher J. G. Rodriguez reports yields in the test plots were excellent.

Lindane was applied weekly to the cucumber crop from early season to a week before harvest. Dosages of the dust averaged 35 pounds an acre.

Developer of Rutgers Tomato Dies

NEW JERSEY—Lyman G. Schermerhorn, 72, breeder of the famed Rutgers tomato, died April 19 at his home in Highland Park, N. J. Since his retirement two years ago as professor of vegetable crops at Rutgers University, Prof. Schermerhorn had been consultant for P. J. Ritter Co., Bridgeton, N. J.

In addition to the Rutgers tomato, introduced in 1934, Prof. Schermerhorn developed Queens tomato; Rutgers World Beater pepper, a mosaic-resistant strain; Raritan asparagus, long-speared and vigorous; and Jersey rhubarb, a highly productive variety.

Toledo Growers Form Group

OHIO—Growers in the Toledo area have formed Toledo Area Vegetable Growers Association. The organization is open to outdoor and greenhouse vegetable growers, potato growers, and others interested in industry in the area. They eventually plan to affiliate with Ohio Vegetable & Potato Growers Association and Vegetable Growers Association of America.

Officers of the new group are: James Schmidt, Swanton, president; Lawrence Ohlman, Toledo, vice president; Arthur Schmidlin, Maumee, secretary-treasurer; Leonard Bettinger, Swanton and Alton Cousino, Erie, Mich., board members.

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Unretouched photo shows Myers 227 series air sprayer in action.

Myers 227 series Air Sprayer covers 300 acres a day

Myers exclusive air handling and two way delivery make the difference! Big, centrifugal fans send the air straight off the fan blades. The air-spray mixture is then delivered out the right and left outlets in a forward and down rolling manner. This ever searching air pattern covers plants from top-to-bottom over the entire spray swath. With a Myers—you get air spraying performance that really *penetrates*, really *covers*, really *protects*.

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6095-225ETF4	45,000	Two-Side	60 GPM at 200 PSI	400 gal.	250	100
6020-F29TR4**	30,000	One-Side	20 GPM at 400 PSI	400 gal.	100	25
6020-F24TR2**	10,000	Two-Side	20 GPM at 400 PSI	200 gal.	50	9

*Available in wheel and skid models.
**Also available as add-on air attachments.

Prove to yourself —ask your Myers Sprayer Dealer for a demonstration in your own field. He'll be glad to show you how a Myers air sprayer will improve your crop yields —increase your profits.

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SOLUTION: on the advice of the local ORTHO Fieldman, an initial shipment of 5 tons of ORTHO DIBROM 4 Dust was ordered. Results of the dusting were so outstanding that over 400,000 lbs. of remarkable new ORTHO DIBROM have been used, to date, by this one farm.

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Your Stake in
FARM LABOR LEGISLATION

By ROBERT M. FREDERICK

Executive Secretary
Vegetable Growers Association of America

IF you are content to allow a minimum wage and hour law to be established in agriculture, to allow organization of farm workers by labor unions, or to be controlled by the Department of Labor from a desk in Washington, read no further.

On the other hand, if you believe, as we do, that the vegetable grower has more at stake than any other employer in agriculture in the proposed legislation dealing with the farm work force, and you are concerned with how it will affect you, we invite you to read on.

At present we are in danger of losing our control over the farm labor work force. This danger presents itself in three different, yet related, forms:

1) Legislation proposed in Congress to include farm labor within the scope of Fair Labor Standards Act, which would establish a minimum wage and hour law for farm workers.

2) A serious movement on the part of AFL-CIO to organize farm labor unions, augmented by favorable legislation such as crew leader registration laws.

3) The interpretation of P.L. 78 (Mexican Nationals Program) and Wagner-Peyser Act (which created federal-state employment services) by Secretary of Labor to confer authority upon the Department of Labor to control wages, housing, transportation, and other conditions of employment of domestic farm workers.

The important point about all three proposals is: how will they affect the small- to medium-size family vegetable grower? How will they affect you and your vegetable operation?

There are some who claim that a minimum wage in agriculture will be to the benefit of the small- to medium-size family farm. Much of the proposed legislation uses the phrase "protect the family farm from corporate agriculture." In fact, several of the bills which have been introduced would extend minimum wage and hour laws only to farms that used more than 2244 hired man days of labor during the previous year.

These people reason that the small- to medium-size family farm hires little or no outside help; therefore, establishing a wage and hour law in agriculture will affect only large corporate-type agriculture. Their argument continues that with the lower production cost, the small family farm will be in a better competitive position with the large corporate farmer who will be covered by the minimum wage law.

To the layman this may sound like a truism, an economic fact that cannot be denied, but it does not hold true. To arrive at the above conclusion, the proponents of such legislation are basing their final analysis on false premises:

1) They are saying that a small- to medium-size family-operated vegetable farm does not use hired labor.

2) They are assuming that the cost of production is the important factor in determining whether or not a grower can successfully market his crop at a profit.

3) They are not considering the fact that all minimum wage laws have a built-in loophole, automation.

4) By including only farms under the minimum wage law that used a specified number of hired man days the previous year, they are in effect setting a floor under all farm wages in that area of production, regardless of the number hired or the size of the vegetable operation.

We feel that quite the contrary is true, that a minimum wage in agriculture will force the small- to medium-size family vegetable grower out of business.

It takes a mighty small vegetable operation to be able to plant, cultivate, and harvest a crop without hiring extra labor. Labor requirements on a family vegetable farm are such that additional workers are required to plant, weed, and harvest the crops. Vegetables, being highly perishable, must be harvested when at their optimum quality if they are to return a profit to the grower. To enable the family operator to do this, he must have additional labor. Any added stimulus that tends to increase farm wage rates will increase the production cost of the family-operated vegetable farm.

It is also important to remember that in considering the total effect of an increase in a cost of production factor, the vegetable grower exercises no control over the selling price of his product in the market. If a grower is able to bargain for a higher selling price, it is because he controls a large enough volume of a certain commodity. The smaller grower will not be able to pass on this increase in cost of production to the consumer as will the larger grower.

If a minimum wage is established in agriculture, it will speed up an al-

ready stimulated change-over to mechanical harvesting, as well as other technological advancements that will increase the efficiency of large-scale vegetable operations with a resulting lower cost of production. The larger grower will be able to substitute capital for labor. The smaller grower cannot because he does not have the volume of production to permit economic allocation of the cost of the expensive machinery required.

Today's produce buyer is looking for large volume in a steady supply and of uniform quality to be sold through modern supermarkets. Will the small grower be able to sell his produce to this type of market simply because he has a lower cost of production? The answer is obvious; he can't.

If the small vegetable grower is forced to pay a minimum wage, thereby increasing his cost of production, it will place him in jeopardy of losing the few remaining market outlets at present open to him.

The farm labor problem is only one of the many problems facing agriculture. Discuss the problem at your meetings, formulate your own ideas, but, above all, contact your Congressman and let him know your views. THE END.

CALENDAR OF COMING MEETINGS AND EXHIBITS

June 22-24—Washington Potato Industry annual summer meeting, Holiday Motel, Yakima. Washington Potato and Onion Growers & Shippers Association, 702 Brown Ave., Yakima.

Aug. 2-3—Ohio Pesticide Institute, Ohio Agricultural Experiment Station, Wooster.

Aug. 7-16—American Institute of Cooperation summer conference, University of California, Berkeley.—AIC, 1616 H St., N. W., Washington, D.C.

Aug. 14-18—South Carolina Farm and Home Week, Clemson College, Clemson.—Thomas W. Morgan, Chairman, Clemson College Extension Service, Clemson.

Sept. 11-14—Produce Packaging Association annual convention and exposition, Americana Hotel, Miami Beach, Fla.—Robert L. Carey, Exec. Sec'y, P. O. Box 29, Newark, Del.

Sept. 27-29—Florida Fruit & Vegetable Association annual convention, Hotel Fontainebleau, Miami Beach.—J. Abney Cox, General Convention Chairman, Princeton.

Oct. 19-20—Western Growers Association annual meeting, Riviera Hotel, Las Vegas, Nev.

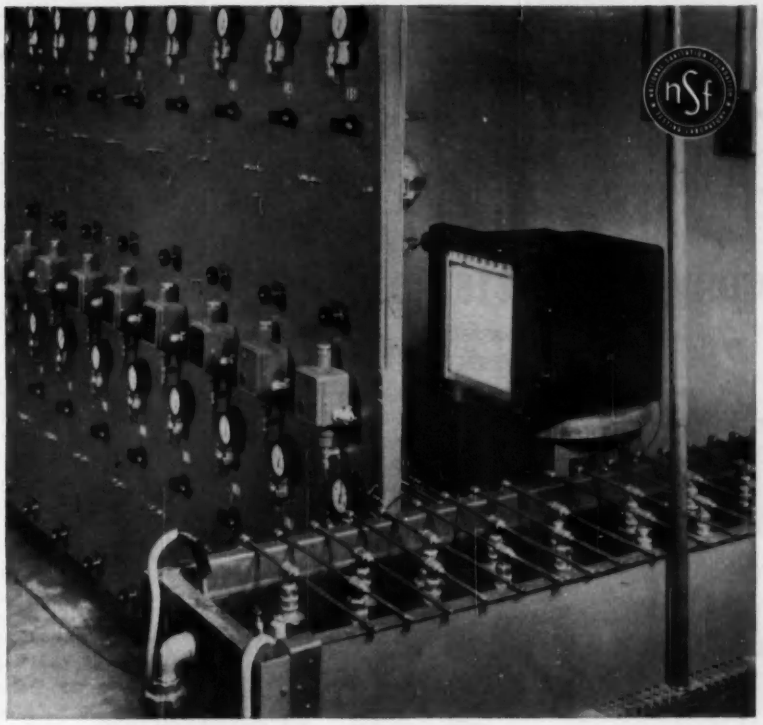
Nov. 14-16—National Potato Council annual meeting, Washington Hotel, Washington, D.C.—A. E. Mercker, Exec. Dir., NPC, 542 Munsey Bldg., Washington, D.C.

Nov. 18-24—National Farm-City Week.—National Farm-City Committee, Kiwanis International Bldg., 101 E. Erie St., Chicago 11, Ill.

Nov. 28-Dec. 1—Vegetable Growers Association of America 52nd annual convention, Milwaukee Auditorium-Arena (Hotel Schroeder, headquarters), Milwaukee, Wis.—Robert M. Frederick, Exec.-Sec'y, 528 Mills Bldg., 17th & Pennsylvania Ave., N.W., Washington 6, D.C.

Jan. 23-28, 1961—New Jersey Farmers Week, Trenton.—Phillip Alampi, Sec'y, New Jersey Department of Agriculture, Trenton.

Jan. 30-Feb. 2—Ohio Vegetable and Potato Growers and Ohio State Horticultural Society joint annual meetings, Sheraton-Cleveland Hotel, Cleveland, Ohio.—Eugene Wittmeyer, Sec'y, Ohio State University, Columbus.



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LETTUCE

Variety Evaluation

DURING 1957-59 USDA, California Agricultural Experiment Station, and Wisconsin Agricultural Experiment Station released a number of varieties of head lettuce to the seed trade. These varieties—Golden State A, Golden State B, and Golden State C, Golden State D, Merit, Lakeland, Climax, and Vanguard—came from a breeding program initiated and carried out by Dr. Ross C. Thompson, who retired from USDA in 1958. In 1959, Texas Agricultural Experiment Station and USDA released Valverde, a head lettuce variety resistant to downy mildew.

None of these varieties have been grown extensively enough, nor have they been observed for a sufficient period to determine completely their sphere of usefulness in the head lettuce industry. Enough information has accumulated, however, to indicate where they are likely to have maximum usefulness and their specific advantages and disadvantages.

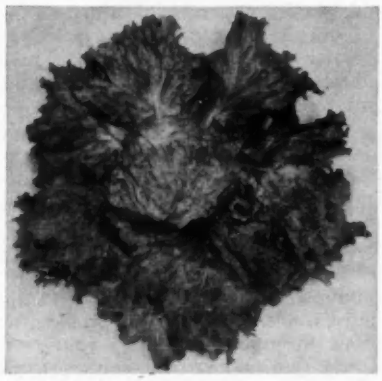
The **Golden State** varieties have similar pedigrees and appear to be nearly identical in external characteristics. Typically, the leaves are apt to be light green, contrasted with the dark green of most Great Lakes varieties. Golden State A and Golden State B are best for spring and fall harvest; Golden State C and Golden State D for summer harvest in districts suited to head lettuce production. There is not enough data from trial plantings or plantings in commercial fields to indicate which of these four varieties, if any, are likely to have permanent value.

For several years, dark-green varieties have been immensely popular with growers, shippers, and consumers. This preference places a severe handicap upon light-green varieties. For this reason, along with poor yields, the Golden State varieties have not been widely used in spite of their excellent eating quality.

Merit is a dark-green variety of the Great Lakes type. It has been grown to some extent for late winter and spring harvest in Arizona and California's Imperial Valley. At the time it was released, Merit was assumed to be resistant to big vein, but this has not been confirmed by greenhouse tests. In the Central Coast district of California, it tends to be small, susceptible to tip-burn, and has many cone-shaped heads.

Lakeland is a small, dark-green variety of the Great Lakes type, designed specifically for culture on the muck soils of states bordering on the Great Lakes. If Lakeland is grown on muck soils under normal summer temperatures, heads of good marketable size (2 dozen per carton) are obtained. It has been produced with some success in Wisconsin and Michigan.

Climax is a large, vigorous, dark-green variety appearing similar to the Great Lakes type. It has the ability to make large, marketable heads when temperatures are low. In this respect it differs from other



Mature head of Climax is large, dark-green. It is similar in appearance to Great Lakes type.

varieties of the Great Lakes type. These varieties are usually small and subject to frost damage when grown for mid-winter harvest in the arid, inland valleys of Arizona and southern California.

In fields of Climax that I examined, the plants were of two different leaf types. Plants of the first type have relatively smooth wrapper leaves; the wrapper leaves of the other type are savoyed or blistered. Plants of the first type tend to have cone-shaped heads. When Climax is grown for winter harvest in California's Imperial Valley, the heads are large, solid, and heavy. Some are ribby, but most of them have an attractive appearance in the carton.

In **Vanguard,** we have something new and different in lettuce varieties. Dr. Thompson was able to Combine a wild species of lettuce, *Lactuca virosa,* with cultivated lettuce, *L. sativa,* by using the drug colchicine as an aid. The steps by which this feat was accomplished are a fine demonstration of modern plant breeding methods. In short, some of the good characters of the wild parent, such as the extreme vigor and tendency to retain healthy, basal leaves, were incorporated into a commercial lettuce variety.

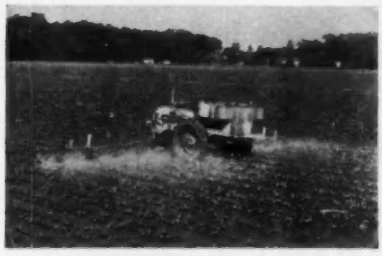
Vanguard is similar enough in appearance to be accepted on the market as a Great Lakes type, but the trained observer will notice a

number of differences. The wrapper leaves are smooth and greyish-green and have slightly dentate margins. The internal leaves have a pleasing yellow appearance; eating quality is good. Vanguard has not been outstanding in appearance or yield in varietal tests when compared with adapted varieties of the Great Lakes type. Probably this variety will prove most useful as a source of breeding material for improving existing varieties.

Valverde is a mildew-resistant variety adapted for culture in the Lower Rio Grande Valley of Texas. Like Vanguard it looks nearly enough like the Great Lakes varieties to be marketed as a variety of this type. It is the first variety to be released since 1945 that is resistant to all the physiological races of mildew that now occur in the lettuce-producing areas of Arizona, California, and Texas.

Plants of Valverde have an attractive green appearance. The wrapper leaves are dark-green and relatively thick, but usually do not fully enclose the head, so that it is partially exposed, or "bald." The heads are firm but not hard; eating quality is good. When planted for harvest during January and February, Valverde normally makes acceptable head sizes. The principal defect of this variety is an abnormally long seed stalk that suckers freely, sometimes before the head matures. The long seed stalk is probably associated with a tendency towards early bolting.

During the growing seasons of 1957-58 and 1958-59 before the introduction of Valverde, the midwinter lettuce crop of the Lower Rio Grande Valley was almost a complete failure, because of severe damage from downy mildew. About 4000 acres of Valverde were harvested in this area during the 1959-60 growing season. Mostly favorable reports from growers and buyers suggest that Valverde deserves to be widely planted for mid-winter harvest. It will be particularly outstanding when the growing season happens to be cool and moist, ideal for the development of downy mildew.—*Thomas W. Whitaker, U. S. Horticultural Field Station, La Jolla, Calif.*



EXPERTS IN CUSTOM SPRAYING

Spraying a lettuce field for Southern Alameda Company Vegetable Growers is one of 15 spray rigs owned and operated by A. L. Castle, Inc., custom sprayers. This Allis-Chalmers tractor-sprayer covers 40-foot width, 12 beds on 40-inch centers, and is capable of covering 10 acres with 300 gallons of spray in 30 minutes.

TOPS IN POTS

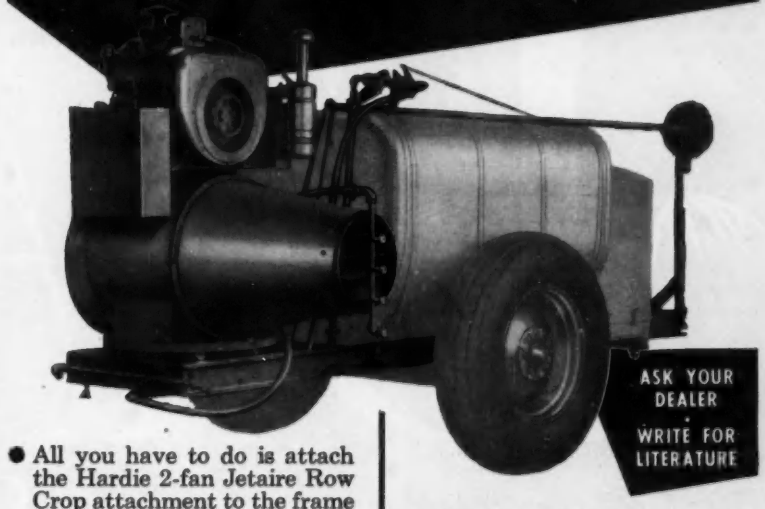
A STUDY of the effect of plant containers on an early tomato variety and labor required in preparation of containers and in field setting of transplants was recently conducted at West Virginia University by F. Dixon Law.

In the investigation, Law used 3-inch peat pots, plastic pots, 3x3x3-inch wood veneer bands, and wooden flats (3-inch spacing between plants).

Results of the study showed peat pots increased production. Earliness of fruiting was also promoted. In the field setting operation, less labor was required with peat pots.

More detailed information on the results of the study of plant containers may be obtained by writing F. Dixon Law at West Virginia University, Department of Horticulture, Morgantown.

NOW— YOU CAN MAKE YOUR OWN ROW CROP SPRAYER



- All you have to do is attach the Hardie 2-fan Jetaire Row Crop attachment to the frame of any sprayer. It comes complete with a heavy duty air cooled engine and controls.
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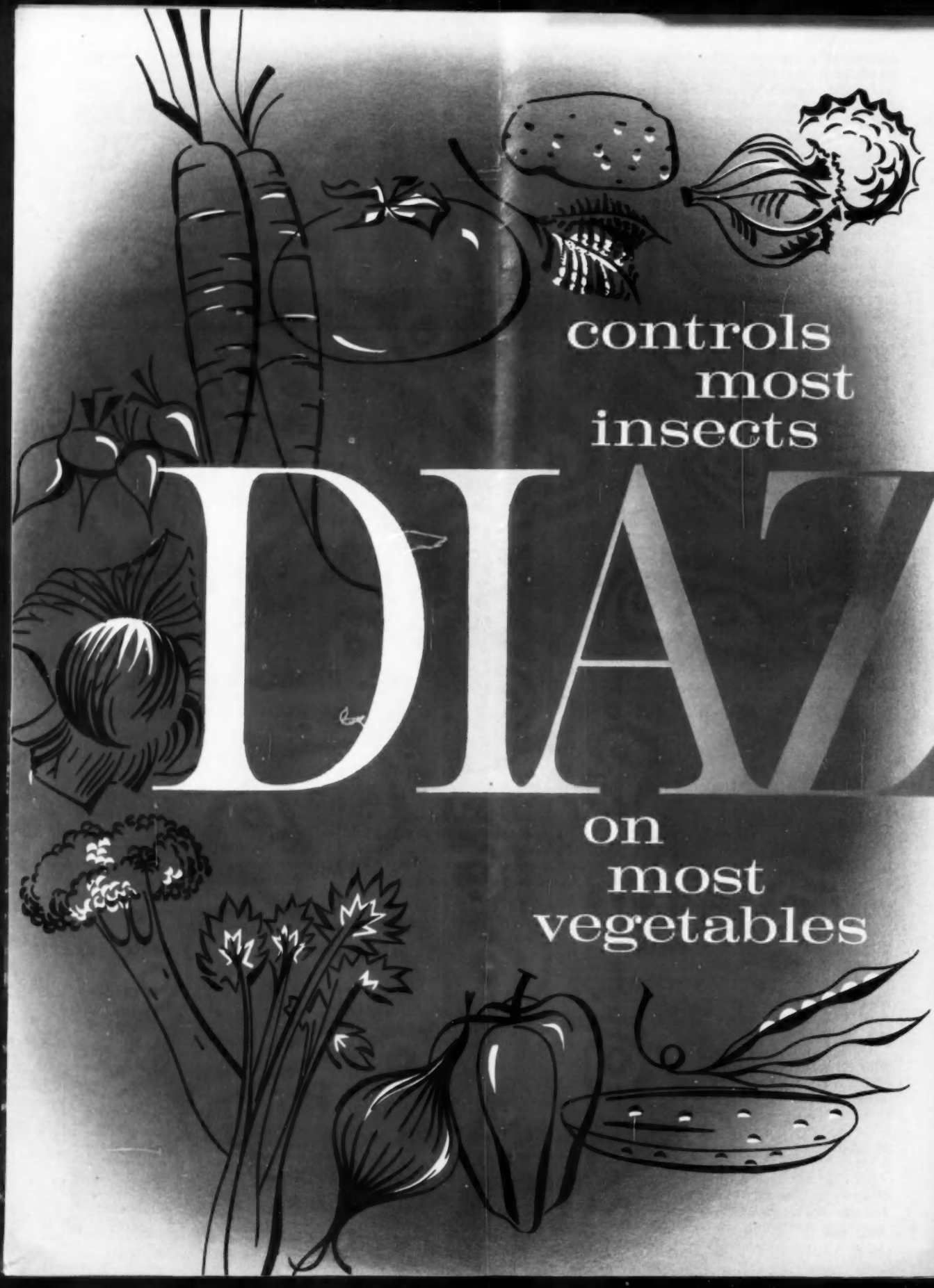
controls
most
insects
DIAZ
on
most
vegetables

INSECTS: *aphids • Colorado potato beetles corn earworms • diamondback moths dipterous leaf miners • flea beetles harlequinn cabbage bugs • imported cabbageworms • leafhoppers • mexican bean beetles • mites • onion maggots onion thrips • southern potato wireworms • vinegar flies (Drosophila sp.)*

VEGETABLE CROPS: *beans (lima) • beans (snap) beets • broccoli • cabbage • carrots cauliflower • celery • collards • cucumbers endive • kale • lettuce • onions • parsley parsnips • peppers • potatoes • radishes spinach • squash (summer and winter) swiss chard • tomatoes • turnips (roots) turnips (tops)* **MELONS:** *cantaloupes muskmelons • watermelons*

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- simplifies spray programs
- saves time, labor, pesticides
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get thorough protection with
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Model 15-RCG Attachment

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As It Looks To Me

By JOHN CAREW
Michigan State University, East Lansing

THE plant breeder you see nibbling on the leaves of a cucumber seedling may not be hungry. Chances are he is selecting for a non-bitter cucumber variety.

A couple of Dutch plant breeders have discovered a slicing cucumber plant with non-bitter fruit AND *non-bitter leaves*. Their work promises to greatly accelerate the development of higher quality cucumbers.

Some cucumber varieties under unfavorable growing conditions produce fruits containing a distasteful bitter principle. A few other varieties never do. At present, all standard varieties have bitter foliage.

To learn whether his experimental strains are bitter or not a plant breeder must grow the plants to maturity and taste the fruit. This requires considerable time, labor, and land.

If the breeder could locate a strain of cucumbers with sweet or non-bitter foliage he could screen out the bitter plants in the seedling stage without the cost and time of producing a crop.

J. M. Andeweg and J. W. De Bruyn of Institute of Horticultural Plant Breeding in Wageningen, The Netherlands tasted 15,000 individual cucumber seedlings before finding one with completely non-bitter leaves. From this single plant they hope to develop a new variety for their Dutch greenhouse growers.

Seed from this plant is now in the hands of American plant breeders for improvement of our field-grown varieties.

Campbell Seminar

"We must breed tomato varieties resistant to our most threatening diseases *before* they cause major economic loss—not after."

With this remark, Dr. F. O. Holmes, internationally known virus specialist of the Rockefeller Institute, keynoted a plant science seminar in Camden, N.J. conducted by the Campbell Soup Company involving 108 research workers from more than 17 states and Canada.

For two days the group participated in discussions relating to breeding tomatoes for resistance to anthracnose, viruses, nematodes, and late blight.

"We've learned much about tobacco mosaic, spotted wilt, sugar beet curly top, and tobacco etch. But we know so little about other serious virus diseases that pose a threat to the multimillion dollar U.S. tomato crop: the stolbur disease of southern Europe that causes almost complete sterility; the tomato aspermie virus transmitted by aphis from chrysanthemums; tomato pseudo curly top; tobacco vein-banding virus and tobacco leaf curl. It will be far less expensive to study these diseases now rather than after they become serious."—*Dr. F. O. Holmes.*

"I would speculate that the primary effectiveness of the di-thio-carbamate sprays in the field control of anthracnose lies in their growth-regulating effects which keep plants more juvenile and therefore less susceptible to anthracnose infection."—*Dr. R. A. Ludwig, Canadian Department of Agriculture, Nova Scotia.*

"Late blight infection is related to fertilizer application. The disease is not severe without a high soluble amino nitrogen content in the plant."—*Dr. M. E. Gallegly, West Virginia University.*

"The mechanical harvesting of tomatoes may make anthracnose and late blight epidemics a thing of the past since these are diseases that primarily affect later pickings. The bright prospects for a single harvest of tomatoes calls for a re-evaluation of our discarded breeding material; we have overlooked, if not rejected, concentrated maturity as a desirable character in tomatoes."—*Dr. E. C. Stevenson, Purdue University.*

"As far as fruit color, acidity, and other quality characteristics are concerned, there are greater differences between strains of tomatoes than between the major production areas of the U.S. In other words, a successful plant breeding program can overcome the differences in quality between our major processing areas."—*Dr. D. R. Porter, Campbell Soup Company.*

Dr. S. G. Younkin and the agricultural research staff of the Campbell Soup Company are to be commended for this well-organized professional seminar. Their firm undoubtedly benefited; but not as much as the cause of tomato breeding and disease control all over the United States. THE END.

Answering Your QUESTIONS

Don't let your questions go unanswered. Whether large or small, send them with a four-cent stamp for early reply to Questions Editor, AMERICAN VEGETABLE GROWER, Willoughby, Ohio.

TOMATO PROBLEMS

I grow tomatoes for shipping. Last year I planted Valiant but had a lot of trouble with cracking. Is this the wrong variety for me to plant?—*Ohio.*

Most growers in your area are planting Valiant and it has proven ideal for your growing conditions. I strongly suspect your problem is soil rather than variety. Soil moisture and organic matter content are important in maintaining steady growth throughout the season.

MULCHING PAPER

Who makes mulching paper?—*Pennsylvania.*

I'm sure what you want is the fungicide-treated black mulching paper for vegetables made by Mosinee Paper Mills Co., Mosinee, Wis., which was discussed in an article in our May issue.

CUCUMBER SEED NEEDED

Can you advise seed sources for the Wisconsin SMR 15, SMR 18, Ashe, and Fletcher cucumbers mentioned in your April "You be the Expert" installment?—*Canada.*

The Asgrow Company, 205 Church St., New Haven 2, Conn., and Letherman's, 501 McKinley Ave., N.W., Canton 2, Ohio, have Wisconsin SMR 15 and 18.

Dessert Seed Co., P.O. Box 181, El Centro, Calif., can supply Ashe and Fletcher seed.

STAPLER INFORMATION

Where can I get more information on the Bostitch Model T5-8 Stapline Tacker shown in one of your recent issues?—*Arkansas.*

Write to Bostitch, Inc., 430 Briggs Dr., East Greenwich, R. I.

WHICH TO PLANT

Can you tell me which potatoes are good for my area?—*West Virginia.*

Among the early potatoes recommended for West Virginia are Cobbler and Cherokee (scab resistant). Good late varieties are Kennebec (blight resistant), Sebago, Katahdin, and Pontiac (red).

ASPARAGUS BUNCHER

Where can I get hand asparagus bunchers and knives?—*Massachusetts.*

Swedesboro Supply Co., Swedesboro, N. J.

JERUSALEM ARTICHOKE

Where can I get information on growing the Jerusalem artichoke?—*Arkansas.*

The Superintendent of Documents, Government Printing Office, Washington 25, D.C., has an excellent USDA bulletin available entitled "Growing the Jerusalem Artichoke." Order Catalog No. A 1.35:116 and send 5 cents in coin to cover costs.

SMALL MARKET CABBAGE

I need a small cabbage for market, one that can be closely spaced.—*Oregon.*

Oregon State College suggests Baby Head, a small, hard globe type that may lend itself to closer spacing. To grow heads averaging 1 pound, plant Baby Head 8 inches apart in rows 18 inches apart. Baby Head has excellent quality.

GREENHOUSE ASSOCIATION

Could you give me the address of the National Association of Greenhouse Vegetable Growers?—*New York.*

434 Schofield Building, 2014 East 9th St., Cleveland 15, Ohio.

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500 to 2,000	500	$28.75M	32#	$28.75M	32#
2,500 to 9,500		$26.25M		$26.25M	
● 3 inches		Square		Round	
1,000 to 9,000	1,000	$17.25M	37#	$13.75M	25#
10,000 to 49,000		$16.00M		$12.75M	
● 2¼ inches		Square		Round	
2,000 to 18,000	2,000	$10.50M	36#	$7.75M	29#
20,000 to 74,000		$9.75M		$7.25M	
● 1⅝ inches		Square			
2,500 to 17,500	2,500	$6.90M	28#		
20,000 to 72,500		$6.40M			

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● 3 inches	Square		Round	
1,000 to 9,000	1,000	$14.50M	34#	$13.00
10,000 to 49,000		$13.25M		$12.00
● 2¼ inches	Square		Round	
2,500 to 17,500	2,500	$7.50M	32#	$7.00
20,000 to 72,500		$7.00M		$6.50

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4'2"	x 200'	.002 Gauge Clear	5.19
12'	x 200'	.002 Gauge Clear	14.84
3'	x 100'	.004 Gauge Clear	3.71
10'	x 100'	.004 Gauge Black and Clear	12.37
20'	x 100'	.004 Gauge Black and Clear	24.74
32'	x 100'	.004 Gauge Black and Clear	39.56
40'	x 100'	.004 Gauge Black and Clear	49.48
1'	x 300'	.006 Gauge Black Only	5.56
10'	x 100'	.006 Gauge Black and Clear	18.56
16'	x 100'	.006 Gauge Black and Clear	29.70
32'	x 100'	.006 Gauge Black and Clear	59.39
40'	x 100'	.006 Gauge Black and Clear	74.24
20'	x 100'	.008 Gauge Black and Clear	49.48

A few uses are: Mulching plants; green-houses; cold frames; fumigating soil; covers for silage pits, hay stacks, machinery, equipment, supplies; enclose work areas; vapor and moisture seal in building construction and cement work; flashing.

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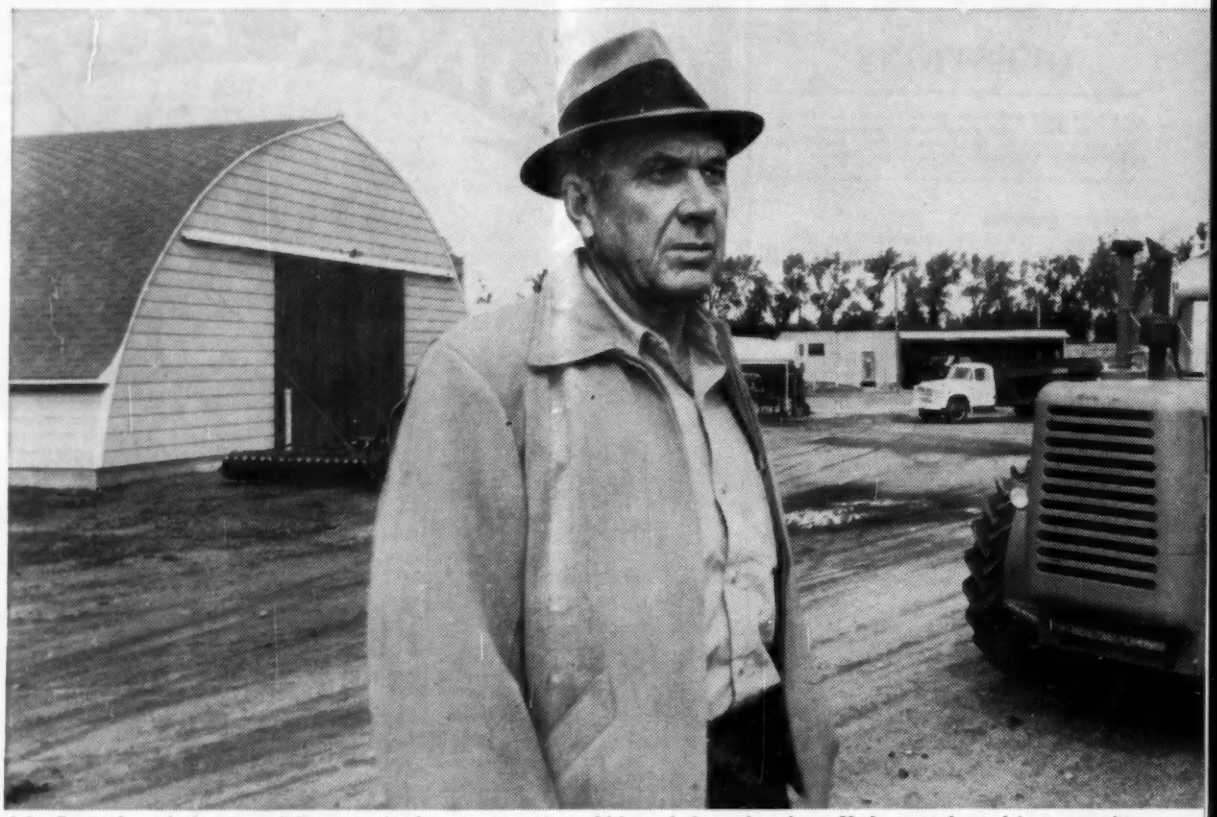
Willoughby, Ohio



John Scott takes a look at one of the many simultaneous operations which mark the modern farm. He has served on advisory committees on agriculture in President Eisenhower's Administration.

Red River Valley's John Scott depends on DITHANE M-22 to protect 700 acres of potatoes

John Scott, Jr., who helps his father run the farm with the aid of hired hands, loads DITHANE M-22 *drums on water tank for use in the blight control spray program.*

Scott, right, discusses bank business with A. A. Holmquist, Valley Bank president in Grand Forks. Scott is a principal owner and board chairman. The bank also has a branch in Gilby.

Daughter Mary, a teacher at St. Louis Park, Minneapolis, is often home for a ride on her Tennessee walking horse.

Jess Coyle, Rohm & Haas representative is given an advance look at the potato crop by Scott, on one of the fieldman's frequent visits during the growing season.

Ask John Scott, of Gilby, North Dakota, where's the greatest spot in the world to live . . . and he'll tell you "The Red River Valley."

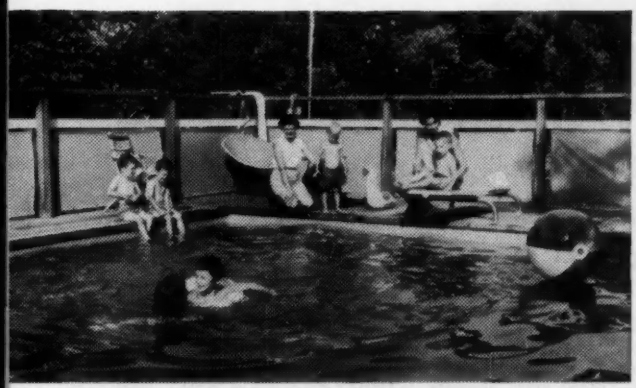
Potato grower, sheep raiser, bank president, member of the Federal Reserve Board, farmland improvement enthusiast and an active Red River Valley promoter . . . John Scott is a busy man. A 14-hour working day is not unusual for him.

In the middle of his large acreage of flat, fertile land, a pair of comfortable remodeled homes, symbolic of this family operation, stand side by side in well kept grounds. Scott, his wife and daughter live in one—son, John, Jr., and family in the other.

At the rear, a modern swimming pool brings neighbors visiting in hot weather. Neat white fences and old shade trees give the farm a picture quality.

About 700 acres are devoted to the potato crop. Much of the rest of the Scott land is used for growing certified seed grains. Brokers handle most of the potato crop for eventual table use and North Dakota certified seed.

Scott says DITHANE M-22 saves handling time because it mixes easily. His potato spraying schedule is more flexible now because this 80% maneb fungicide lasts longer on the vines.



Scott family and neighbors make good hot weather use of this modern swimming pool at the rear of the home of John, Jr.

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JULY
AMERICAN VEGETABLE GROWER
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MARKETING

What's Your Trademark?

THE markets that really make money always have something special about them. Often the customers aren't even aware of the particular thing that makes a market stand out in the mind's eye. But it does stand out. And the customers came back again and again.

Usually there's a distinguishing trademark of some kind—a unique sign, or display method, or building design. It's something that sets one market apart from all the other roadside businesses, something that makes it unusually inviting.

Put yourself for a moment in the position of a potential roadside customer. How do you select a filling station, for example, aside from gasoline brands (since brands are not a factor in farm roadside markets)? Consciously, or subconsciously, you are attracted by the pretty flowers always growing around a certain station, or by the excitement of an antique car or two on display, or by the fact that the enterprising station proprietor advertises "a free tank of gas if we forget to wipe your windshield."

So it is with *your* customers. They look for something new and different in selecting a market. The farmers who have developed a unique trademark of their own are the ones who will cash in on extra volume. The possibilities for these marks of distinction are limited only by your imagination.

Consider these as you begin to think of a trademark for your own market:

- the market with a huge red wooden sign in the shape of an apple . . .
- the stand with a brightly painted old wagon loaded with colorful vegetables as its roadside advertisement . . .
- the proprietor who gives every child who visits the market with his parents a crisp apple or a luscious peach, inexpensive community goodwill . . .
- the market that always features an exciting contest, like guessing the seeds in a watermelon, to stimulate customer interest . . .
- the thoughtful wife of a market operator whose mimeographed favorite recipe turns up in customers' homes in each bag of squash and hamper of beans, for example . . .
- the market known for its novel displays such as a big pile of apples where (with the bags provided) you take home "all you can bag" for, say, 49 cents . . .
- the market owners who provide an educational exhibit for the visiting family, in one instance a live beehive between glass plates inside the building, with the entrance for the bees safely constructed from the other side of the wall to the inside of the hive . . .
- the market known far and wide for its unusual varieties of vegetables, grown by no one else in the area, but produced as a hobby of this proprietor who operates, in effect, a profitable roadside market museum . . .
- the market where you can "see it picked with garden freshness" from adjacent fields . . .
- the market located beside an impressive landmark such as a tree of noteworthy size or a monument . . .
- the personalized market that has a one-paragraph story of the farm family operators printed on paper containers and literature . . .

All of these markets have a distinguishing characteristic that accounts in no small measure for their success. What will your trademark be this season?—*Robert L. Bull, Extension Marketing Service, University of Delaware, Newark.*

Brightly colored display wagon is trademark of Paleta Farm Market, Hadley, Mass.

POTATOES

Vicious Cycle

"I REMEMBER only one year when it paid to plant high-priced seed in Maine, and that was in 1926, following the profitable 1925 crop. It looks as though this year (1952) might be another one!" Those were the words of a potato grower in western New York in the summer of 1952. He had sold his seed for a $7000 profit that spring, rather than plant a crop.

A. E. (Al) Mercker, executive director, National Potato Council, expresses the same idea in another way. Many of you have heard him say that the only way for a potato grower to die rich is to die in the spring of a high-priced year—before he has had an opportunity to put the profit back into the ground by planting a larger crop the next year. Of course, Mercker was referring to the potato industry in general, rather than to the individual grower. Unfortunately, the facts show these statements to be very true.

The entire 1959 potato crop moved at very good prices. The improved 1959 crop prices can be attributed to reduced production brought about principally by sharply reduced acreages, with the exception of the fall crop. In the case of the fall crop, while acreage was down slightly in most producing areas, most of the cut in the crop and resulting improved prices can be attributed to adverse weather conditions which cut yields below 1958 levels in every major producing area.

Where is the potato industry headed during the 1960 crop year? It appears to have a good start on the way back up the endless treadmill of good prices, bigger acreage, bigger crops, and disastrous prices. Producers in winter and spring areas have reported that they planned to plant larger acreages of the seasonal crop. They have. Where the planted acreage has been recorded, they have not only exceeded 1959 plantings, but have also exceeded their previously announced 1960 intended acreage.

So in California, most important of the early producers, the late spring intended acreage is up 13% or about 6000 acres. The actual plant is likely to be even larger. In the Hastings area of Florida, the plant exceeds both last year's and the 1960 intentions.

What can be expected from the later producing areas? With the exception of the year 1957, growers in the past nine years have almost consistently planted a larger acreage than the intentions, which are announced

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Plyac spreader-sticker makes all sprays stick better and last longer, even in rainy weather when other sprays wash off easily. You can increase the effectiveness of insecticides, fungicides, even weed killers . . . stretch the time between sprays . . . do less re-spraying.

Plyac is easy to use and economical, too! Comes in convenient liquid form. May be added to both wettable powders and emulsifiable concentrates. Only 2 to 4 ounces are usually required for each 100 gallons of spray mixture.

For extra performance from *all* your sprays, use Plyac spreader-sticker this season!

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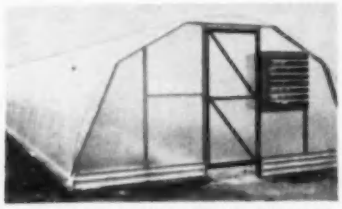

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in late March. In 1957 growers of the late crop failed to plant more than their previously announced acreage. In 1951, the planted acreage was the same as the intended acreage. Price supports were discontinued following the 1951 crop.

It appears very likely that the potato grower and his industry in 1960 will again be at the mercy of the factors which turned the 1959-60 crop year into a moderately successful year. These included the weather, which aided the outlook not only by reducing yields in the United States, but even more sharply in Canada, and increased utilization for processing.

Both of these factors are uncertain allies in any one crop year. Crop failure becomes less and less a possibility and yields increase as acreage becomes concentrated in well adapted areas as farms become more efficiently operated, and as irrigation and technological improvements are used more extensively.

The increase in utilization of potatoes for processing in 1959 was not only due to fabulous growth in demand, but because in some cases processors failed to process the normal requirements from the 1958 potato crop due to failure to gauge the market accurately. Some western processors were selling contracted potatoes on the fresh market in the fall of 1958.

It has now been 35 years since, as my potato grower friend recalls, it paid to plant potatoes in the spring of a high-priced year. I wonder how many years will pass before this happens again.—*A. C. Hazlett, Produce Merchandiser, P & C Food Markets, Inc., Syracuse, N. Y.*

MELONS

They Cry for Round Ones

CHARLESTON GRAY, today's most popular variety, has fulfilled many of the needs of watermelon growers. It is classed as wilt resistant; it is resistant to two of the three existing races of anthracnose; it is prolific; and it is more foolproof from a grower's standpoint than any variety before it.

Under certain conditions Charleston Gray may show hollow heart but, by and large, it is a most satisfactory variety to grow.

But Charleston Gray—a long-type melon—has brought into focus a distinct problem in shipping. It has become such a problem that the industry has developed a crying need for a good round-type variety.

The new round-type varieties will have to meet certain requirements. They will have to cut well (not show a hollow or white heart), be resistant to anthracnose, and have some resistance to fusarium wilt.

To date, none of the varieties and strains of the round type have proven completely satisfactory. U.S. Vegetable Breeding Laboratory, in co-operation with state experiment stations, is continuing trials to develop a top-notch round variety.

In recent years we have grown Summit, Hope Diamond, and Mississippi 1717—all round type varieties of the Black Diamond type.

The following is an evaluation of some of the new varieties based on our 30 years of experience in the watermelon seed growing business. (Simpson Nursery, Monticello, Fla.)

Summit has most of the needed requirements for a good round-type melon. But our experience with it indicates that its quality is too poor for general use.

We planted 35 acres of **Hope Diamond.** It was a complete disappointment. We do not recommend it.

Mississippi 1717 has good quality and high resistance to fusarium wilt. Fruit is large, uniform in size, and cuts red. Mississippi 1717 is apparently as prolific as Black Diamond. We recommend it for trial planting for shipping purposes.

Purdue University recently introduced two long-type varieties—Indiana 133 and Indiana 134. **Indiana 133** is similar to Charleston Gray but is more resistant to fusarium wilt. In our plantings, it has out-performed Charleston Gray in total number of melons per acre.

Tri-X 313 (Seedless)—is shaped for travel.

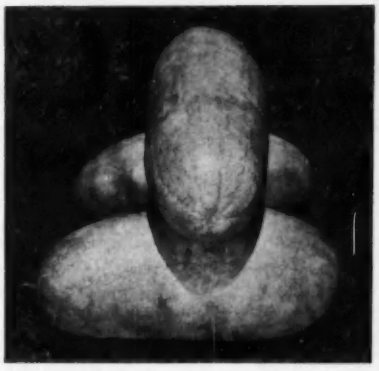
Indiana 134 is a long, dark green melon of high quality and very resistant to fusarium wilt. It is about the same size as Charleston Gray.

Much work has been done on triploid or seedless watermelons. After testing 16 triploid strains, we believe that two of them—Tri-X 317 and Tri-X 313, developed by American Seedless Watermelon Corporation, Goshen, Ind.—are worthy of trial.

Tri-X 317 is a round melon of excellent quality. It is very prolific. Fruit averages 12 to 20 pounds and

has a tough rind. On the market Tri-X 317 has been selling at a considerable premium per melon.

Tri-X 313 has more possibilities from the industry standpoint than any triploid or seedless variety we have tried. In our 1959 trials, vines of Tri-X 313 had green leaves three weeks after all other triploids were dead and five weeks after the standard varieties were dead. It has some resistance to anthracnose and seems to develop a better stand in the field



Charleston Gray—its shape causes problems.

more quickly than any triploid we have tried.

Fruit of Tri-X 313 cuts excellently, is oval shaped, red-fleshed, and averaged from 15 to 28 pounds in our 1959 trials. The rind is green with a stripe and we think tough enough to ship. We recommend Tri-X 313 for trial planting by carlot shippers.

Two words of warning about all triploid melons. First, their pollen is male sterile and must be interplanted with a variety such as Charleston Gray to get the melons to set. In commercial plantings, generally three rows of triploids are planted to one row of Charleston Gray.

Secondly, price of seed is high and will necessarily remain high because of the tremendous amount of hand pollination and low seed yields per acre (8 to 10 pounds). But there are 8000 to 8500 seed per pound. We think there is a place in the industry for triploid varieties.

In summary, we feel there are two new round-type varieties worthy of trial—Mississippi 1717 and Tri-X 313.—*Stuart C. Simpson.*

—BE SURE WITH SPRAYS—

- **Follow directions on the label.**
- **Do not apply sooner or later or more often than recommended.**
- **Measure dosages accurately.**
- **Keep a written record of dosages used, dates, and method of application.**

Seedless
WATERMELON
TRI-X #317

VIGOROUS
True hybrid seed

TRI-X Triploid Hybrid Seedless Watermelon

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American Vegetable Grower

Publishing Company

Willoughby, Ohio

PLANT GROWER'S CORNER

By RAY SHELDRAKE

IN most areas of the country, the big plant selling rush is over. However, good plants will still find a market throughout this month. If you have some plants left, try a weekend special. A slightly reduced price usually moves a lot of material. Try advertising "Buy five paks, get one free"—it's very effective.

June is the month to take stock of your plant growing and selling operation. Write up a summary of things to do for next year. While you still remember them, write down those items that were best sellers, also the ones that were hard to move. You will want to increase the good items.

What type of pak was preferred by your customers? What colors in petunias were the most popular? What vegetable plants were most popular? Potted or not potted? These notes will prove invaluable to you next year.

Some growers feel that we are already producing too many bedding plants. I heartily disagree. Although the market was flooded with plants this year, there was a deficit of quality material. One new grower (100,000 flats this year) told me that we are producing only 10% of the annuals that could be moved. As you drive through new housing developments this summer, take note of how many homes have a good display of annuals. Probably only one in 10. The other nine are potential buyers.

Have you tried growing and selling garden mums along with your vegetable plants? Rooted cuttings should be potted in 3- or 4-inch containers in March. If the growing tip is pinched out—about ½ inch is plenty—your cuttings will develop into plants which will be in bloom by Mother's Day or Decoration Day. Three-inch square peat pots work well for this item. These plants are a good come-on item at 39 or 49 cents—cash and carry.

Be sure to attach a card giving simple cultural instructions. Your customer will be doubly pleased with his purchase when he learns from the card that the plant will bloom again in the fall. Check with your supplier—he'll have detailed information on growing garden mums successfully.

There is a revolution in progress in containers for producing plants. While many growers still prefer a wooden flat, we see more and more paks of various sizes and materials. It is surprising to hear one grower condemn a certain pak and to see another completely satisfied with the same pak.

Good drainage is important. Some pressed paper paks used in one establishment did not have the holes opened up and growth was spotty. The plants actually had wet feet and the soil was soggy wet. It would pay to check the drainage holes in the paks when spotting out.

More and more lightweight plastic and aluminum paks are being used. Where dozen paks are being handled, it pays to use a master container or flat which holds five or six of the paks. They can be handled much more efficiently.

Direct seeding of paks may be closer than we think. One grower has developed a neat unit to direct seed quickly—one man can seed a 125x20-foot house in one day. The unit—Spot Seeder—is available from Glen-Windsor Co., Box 194, Morris Plains, N. J. It works best on round seeds. This grower seeded all of his alyssum, portulaca, and lobelia. Petunias work very well but one must decide between seed cost and labor of spotting out—a time-consuming operation.

□ □ □

It's not too early to be thinking about soil for your bedding plant operation for next year and the year after. Many successful growers will set aside a piece of land on their place from which they hope to get their future soil. The pH of this soil should be checked and, if lime is needed, this is an excellent time to add it. For general plant growing, the pH should be in the range of pH 6.0 to 6.8.

Additions of a complete fertilizer are beneficial if a cover crop is grown which is to be harrowed into the soil. For this purpose, buckwheat will make a good rank growth in many areas and sometimes two crops can be harrowed in in one season. If the soil is especially low in organic matter, a crop that is more rank in growth and will yield more organic matter might be selected.

We hear more and more about synthetic mixtures and it is obvious in touring bedding plant establishments this year that the planting media is being made up more and more of material other than soil.

During the last two years, vegetable plants grown in artificial media in New York have yielded as early and as high in total yield as plants grown in soil. I believe that in the not too distant future we will see more plants grown in materials other than soil and I hope to be able to report more detail on our work after this season. THE END.

BETTER SPEARS

(*Continued from page 9*)

Strains are being tested for possible new, improved sorts to replace those in use. Waltham Washington has performed well and is suggested for trial by processing crop growers. It produced a high yield of medium-sized spears in tests conducted by Dr. J. Howard Ellison, of the station. Viking, an import from Canada, has produced a medium yield of larger spears desired for the fresh market. Neither variety is the last word.

Dr. Ellison is working on the development of all-male lines, which may yield considerably more than ordinary male-female strains. Improved male lines would have the advantage of greater uniformity and the vigor needed to improve the position of the grower in today's competitive world of rising costs and fixed or lower income.

Recognizing that planting costs are high, and that in hand planting crowns can be injured when planters step on them, a grower in

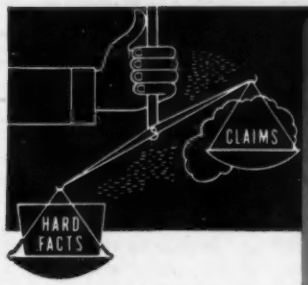
Crooked spears may be caused by careless cutters, by wind, other factors. Garden Staters blame cutter damage for much of reduced yield.

Greenwich, N. J., has developed a planting cart to facilitate setting out the crowns. One cart is used to plant two rows at a time or by joining two carts together, four rows can be planted. The wheels ride in the trench. The planters sit facing the back and are low enough to place the crown accurately.

Harvesting is one of the most costly operations in producing the crop. Agricultural engineering research men are working on an asparagus harvester with the idea of cutting costs.

The most recent work in marketing is in the field of prepackaging. In this age of pot-ready vegetables, it may not be long before housewives will find tender green spears packaged ready for cooking.

Asparagus is undergoing changes in the Garden State just as every other crop will have to change to keep pace with the times. Those growers who are willing to change will remain, and the resistant ones will be left at the "post." THE END.



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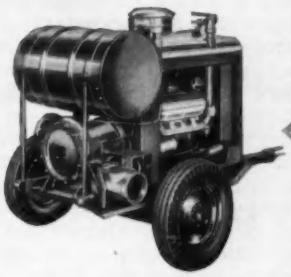

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GREENHOUSE CROPS

Measure of Success

THE story of John Jocke of Westview Village, Ohio, and his greenhouse enterprise is a success story worth telling. It proves that a small start, hard work, willingness to learn, and ability to adjust to change can still produce success.

The story began when Jocke at 17 started working at Olmsted Greenhouse and Riveredge Greenhouse, Olmsted Falls, Ohio. His father operated a vegetable planting but John had dreams of his own.

At the height of the depression in 1933, John Jocke and his wife erected their first 3000 square feet of glass in Berea, Ohio. Those were difficult years and he worked at a full-time job while his young wife kept the home and greenhouse going. Jocke would leave instructions in the morning for jobs to be done until he could take over in the evening.

The greenhouse was expanded during the years to 1¼ acres. An average of 4500 square feet was built each time. Finally in 1942 Jocke decided to quit his regular job and devote full time to the greenhouse. The family was growing and Mrs. Jocke found that seven children needed more attention than tomatoes.

Jocke grows two crops of tomatoes each year—Ohio W.R. 3 for spring and Ohio W.R. 7 for the fall crop. He has grown his share of cucumbers, leaf, and Bibb lettuce. Geraniums have been a spring cash crop.

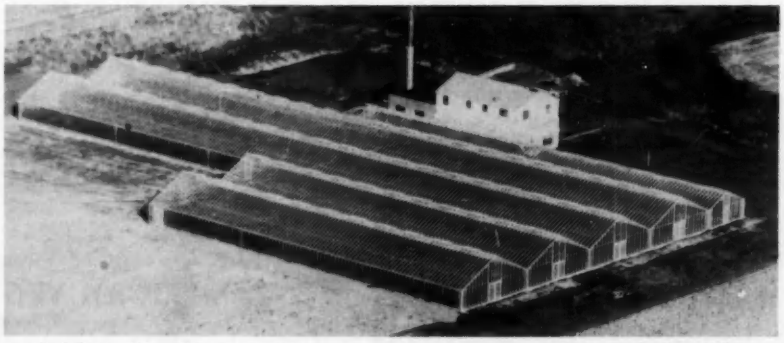
The last greenhouse addition of 300x60 feet was not tiled for steam sterilization. Boiler capacity at that time was not sufficient so lettuce crops were grown. Now new gas-fired boilers (Leffel) have been installed and steam tiles will be laid. Tomatoes will replace lettuce following installation.

What about further expansion? The Jockes will be moving into their new brick ranch home next month. The girls have their own families and son Tom has three more years in the Navy. College-age Andrew has been a good greenhouse worker as have all the Jocke children. Thirteen-year-old Jimmy is the tomato of his father's eye. "Yes," says Jocke, "I think we will be expanding. Jimmy wants to be a greenhouse grower."

Transplanting tomato plants for the spring crop is pleasant chore for Jocke and son Jimmy.

You can be sure Jimmy will be encouraged, as was the oldest boy Edward. After working at other jobs and doing his turn in the service, Edward came home to become a grower on his own. Jocke is extremely proud of his family as well as his greenhouse grower son-in-law, Frank Zemanek, who grows four crops of lettuce a year and a spring geranium crop in nearby North Ridgeville.

A successful grower can be measured in different ways. Assisting his sons to begin in business and encouraging them in the vegetable industry is part of John Jocke's success. —*Fred K. Buscher, Cuyahoga County (Ohio) Agricultural Agent.*



Jocke's son Edward now owns this 1-acre greenhouse operation in Columbia Station, Ohio.

COOL TOMATOES

(*Continued from page* 11)

ically done with a moisture meter and resistance blocks or with soil tensiometers. Growers who use these methods and who start irrigation when the moisture drops to about the 40% level will overcome two mistakes common in normal irrigation practice—too late with too little.

Several other factors warrant consideration in addition to soil moisture supply. Because of the physical problems and labor costs involved in moving sprinkler lines or in maintaining irrigation ditches, it is desirable within the limits previously discussed to make heavier applications at longer intervals.

Losses of fruit from harvest cracks and subsequent fruit rots may increase with heavy irrigations near harvest. It would appear advisable to refill the soil reservoir at least a week ahead of any heavy flush of bloom and 10 days to two weeks ahead of heavy harvests.

On lighter soils and with varieties responding to extra nitrogen feeding, irrigation may provide the ideal way

Blossom-end rot . . . Evidence of too late with too little.

to time the uptake of nitrogen after the onset of fruiting to continue growth, increase fruit size and yield, and prolong harvest.

Mulching should not usually be considered a satisfactory substitute for irrigation. The conservation of moisture by mulching is limited to a small part of the soil's supply (otherwise lost by surface evaporation) and is not sufficient for the long-term droughts common in the Midwest. Thus, droughts in June, July, and August exceeding four weeks in duration would probably justify irrigation over mulching in a market tomato operation.

During occasional short-term droughts, the moisture conserved by

(*Continued on page* 35)

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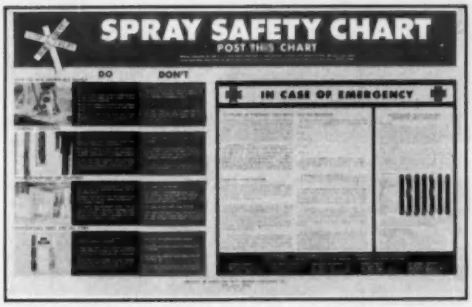

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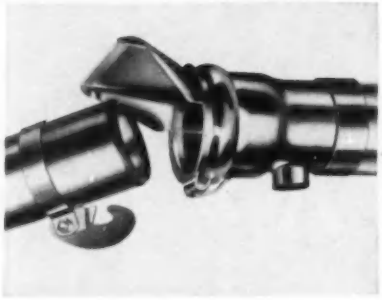
New for You

Quick Coupler

Growers in the Northwest are using a new quick coupler that makes their irrigation problems much simpler. The coupler is a "press-in" type and is hydraulically pressed into the



end of aluminum tubing, requiring no rivets or bolts. Precision-made of rolled steel, the unit will last for the life of your system. In addition, the same company makes a butterfly-type line valve of good efficiency and a heavy duty rolled steel coupler. In fact, you would be wise to write to L. H. Williams, R. H. Pierce Irrigation Co., 345 Blaire Blvd., Eugene, Ore., about any irrigation problems you might have. The company will send you full details on these units.

Bigger Yields—Better Crops

What particular benefits of sprinkler irrigation do row crop growers value highest? Bigger yields and good-crop certainty every year, regardless of weather, rank first. But there are special advantages to growers of row crops that are nearly as essential. Improved quality of vegetables is one. Another is help in better seed bed preparation. The sprinkler method is especially convenient for pre-seeding irrigation. Also the close moisture control possible with sprinkler irrigation enables growers to irrigate crops more satisfactorily than

with other methods. A third advantage is timeliness of irrigation which keeps crops flourishing throughout the growing season to reach the early, higher-profit markets. From coast to coast and border to border, row crop growers who have manpower problems and watch production costs have turned to sprinkler irrigation for the extra gains and savings it gives them. Pictured is Willamette Valley pole beans under sprinkler irrigation—one of many row crops for which growers have learned to use sprinkler irrigation as a dependable protection against loss of yield and quality. It would be a good idea to write Wade Newbegin, R. M. Wade & Co., Dept. W72-5-60, 1919 N. W. Thurman St., Portland 9, Ore., and ask for all the particulars.

Know When—How Much

Knowing when and how much water to put on your vegetables is the secret of higher profits. Profit-minded growers are taking the guesswork out of irrigation by employing a moisture meter. The best we have seen for vegetable plantings is illustrated. It is easy to use and built to last. The unit is hermetically sealed to insure trouble-free service. Write Leo C. Cunniff, Industrial Instruments, Inc., 89 Commerce Rd., Cedar Grove, N. J. He will send you all the facts promptly.

ROADSIDE MARKET PLANS

Located on a well-traveled highway? Then you may want to attract the motorist with a good-looking display of vegetables. Working drawings for an easy-to-build roadside stand are available from AMERICAN VEGETABLE GROWER, Willoughby, Ohio, for $2.00 a set.

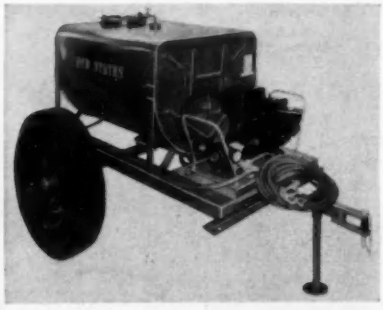
Perfect Seed Beds

Growers in Ohio and Pennsylvania are reporting increased yields and better quality by using a soil shredder. The secret, according to growers I have talked to, is shredding the soil, not grinding it. By shredding, the soil

is aerated and retains moisture and nutrients. The machine is beautifully built and is trouble free in operation. I suggest you write to Kemp Mfg. Co., Dept. 62, 1027 E. 20th St., Erie, Pa., for further information.

Not Expensive

Many growers have been looking for a low-cost sprayer, yet a machine which will give good insect and disease control. I saw one the other day. The sprayer is powered by a Briggs and Stratton engine, pumping 10 gpm. The Hypro pump needs no priming and is completely enclosed. There are no belt drives to wear and



nothing is exposed. Equipped with a 100-gallon tank complete with power jet-agitator, it sells for $195. Mounted on a trailer, the cost is $423.60, and on skids, $395. Why not write B. L. Auer, of Hub States Chemical & Equipment Co., 1255 N. Windsor St., Indianapolis, Ind., and ask for more information about this sprayer.

COOL TOMATOES

(*Continued from page* 33)

mulching may be sufficient to nourish the plant satisfactorily until rains come and the soil reservoir can be replenished. Under such circumstances the benefits from mulching may be sufficiently rewarding to justify the expense and trouble.

In contrast to the positive physiological needs of the crop, the profitableness of irrigation is more difficult to establish. For example, in processing tomatoes where both the investment costs and gross returns per acre are lower, the value of irrigation as failure insurance is much less appealing than for the high-cost, high value, early market operation. The probability of increased net profits from irrigation is also probably less with the canning crop.

Currently, the value of irrigating processing tomato fields in midwestern states starting the season with good soil moisture reserves and having as much as 5 inches of "effective" rainfall during the four-month season, is highly questionable. On the other hand, it is doubtful whether the early market trellis and stake tomato grower can long survive without the reliability and other benefits of irrigation. THE END.

TIPS ON IRRIGATING

- A tomato crop requires 18 to 20 inches of water.
- Make sure variety, fertility, etc., are not limiting your production.
- Balance additional returns against costs, especially on processing crop. Consider possibilities of increased profits as well as value of irrigation.
- Don't delay irrigation in hopes of rain. Analyze weekly the need for irrigation according to the available soil supply and the crop's demands. Start irrigating when available soil moisture drops to 40% of soil's field capacity.
- Plan ahead—fill the soil reservoir *before* the harvest season starts.

Answer to YOU be the EXPERT!

(See page 12)

The melons were infected with bacterial wilt, a disease that overwinters in the digestive tracts of cucumber beetles and is spread by them in the spring. Next year, Evans can prevent this disease by controlling the beetles. Sprays or dusts of dieldrin, methoxychlor or rotenone applied beginning when the melons come up will be effective.

No melon or cucumber varieties are resistant to bacterial wilt. Evans' variety was resistant to *fusarium* wilt, a distinctly different soil-borne disease.

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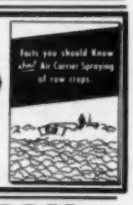

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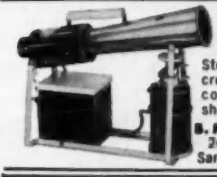

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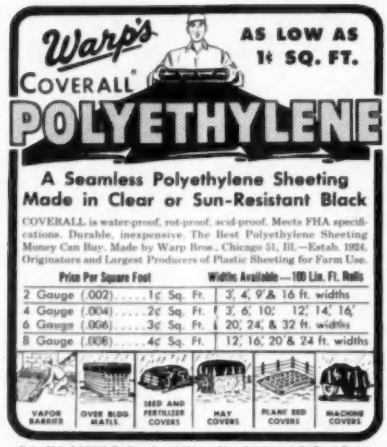
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DO TWO JOBS

(*Continued from page* 10)

suction side of the pump where a negative pressure exists. A hose or pipe connects the suction pipe to a tank or reservoir containing the fertilizer solution.

A tight valve is needed on the connecting pipe to prevent entry of air into the pump when the fertilizer tank is empty, which would cause the centrifugal to break its suction head. This method permits applying fertilizer solution to the irrigation water at any time when the centrifugal pump is operating.

MANUFACTURERS OF FERTILIZER INJECTORS

Arcadia Pump Mfg. Co., Injector Div., 2142 Central Ave., Duarte, Calif.
Delta Dispenser Mfg. Co., 8529 E. 11, Downey, Calif.
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Fabricated Metals, Inc., 2400 Merced St., San Leandro, Calif.
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Klenzade Products, Inc., 5861 W. Ogden Ave., Chicago 50, Ill.
Liquinox Co., 1409 W. Chapman, Orange, Calif.
Nutritional Concentrates, Inc., P.O. Box 309, New Lexington, Ohio
Glen Piland, Box 1609, Bakersfield, Calif.
Smith Equipment & Supply Co., 1615 North Central, Chicago, Ill.
Smith Precision Products Co., 1135 Mission Street, South Pasadena, Calif.

Fertilizers can also be injected into the discharge side of sprinkler pumps. In this case it is necessary to inject the fertilizer solution at a greater pressure than that existing in the sprinkler pipeline. Centrifugal pumps have been used to force the fertilizer solution into the pipelines under pressure, but this method has not been too satisfactory.

Hydraulic devices making use of the Venturi or Pitot principles have proven to be quite successful for injecting fertilizers into the sprinkler system. The velocity of the water in the pipelines is used to cause a flow of water through the reservoir containing the fertilizer solution and back into the pipeline. The tank holding the fertilizer solution must be airtight and capable of withstanding the pressure existing in the system.

Where the fertilizers are added to the water applied by surface irrigation, it is necessary to know the rate of flow of the water and the time required to irrigate a given area. The distributor uses this information in adjusting the injecting devices so as to apply the desired amount of fertilizer to each field.

With sprinkler irrigation, it is customary to inject a given quantity of fertilizer during each setting of the sprinkler lines equal to the rate of fertilizer application desired for the area being irrigated at that time.

The injection is usually made over a 30- to 60-minute period shortly after the sprinklers start operating. Clear water is used at the end of the irrigation setting to thoroughly flush the sprinkler lines of any residual fertilizer materials.

Several California growers have used water soluble nitrogen, phosphorus, and potassium compounds in their sprinkler systems for five or more years with little or no corrosion of their aluminum pipe or brass and bronze fittings providing the systems have been rinsed with clear water during the end of the irrigation run.

Caution should be used to prevent any backwash of fertilizers which might contaminate water supplies used for domestic purposes. A check valve in the discharge pipe from the pump will help to prevent fertilizers from flowing back into wells or public water systems when the pump is shut off.

THE END.

MICHIGAN NJVGA MEMBERS HONORED

Michigan winners in National Junior Vegetable Growers Association were recently honored at a luncheon by Gerber Products Company. (Another winner, Melvin Ekkel, was unable to attend.) Thomas Church (right), 1959 Michigan NJVGA Canning Crops winner, holds plaque presented to him by Don Gerber, president of Gerber Products Company. Other winners honored are (left to right) Harold Hughes, Robert Poulson, Mr. Gerber, Stanley Brummel, Arthur Getz, and Church.

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The Old Swimming Hole

THE value of supplemental irrigation is being proved over and over again, as indicated in this issue. And with the increase in irrigation comes an increase in the building of farm ponds. Stocked with fish and located in a picturesque area, the ponds have become glorified swimming holes for the entire family.

Which brings us to the warning we want to issue as National Farm Safety Week draws near. The hazards involved in the use of farm ponds for such recreational purposes as fishing, boating, and other water sports are manyfold. Precaution must be the password at all times.

If you have a pond that's used for recreational purposes, make cerfain that safety rules are posted at several places and lifesaving devices are readily available. The first rule of safety, of course, is to make sure that recreation of this kind is supervised by an adult.

Remember, too, that water and electricity are a combination to be avoided, so be sure to observe these precautions when irrigating:

- Never allow portable pipe to come in contact with electrical power lines. Irrigation pipes are conductors of electricity.
- Never allow water from a sprinkler irrigation system to contact power lines.
- Prevent water from collecting near the pump.
- Keep pump motors repaired.

National Farm Safety Week is July 24-30. It's aimed at highlighting safety precautions. But let's observe these precautions throughout the year, for the economic cost of an accident runs high, in the form of doctor bills, lost time, and the hiring of extra help. An accident may mean a life or a limb. You are needed, so please be careful.

Your Best Friend— The Directions on the Label

THE label on the bag of insecticide or fungicide you use can be your best friend. By faithfully following its directions you are guaranteed that your crops will not have harmful residues at harvesttime. Its directions protect you against confiscation of your crops by Food and Drug officials. If you are careless in following its directions, the label offers all the evidence needed for seizure of your crops.

The label is *not* a piece of advertising literature. It is *not* the "fine" type which can go unread except in unusual circumstances. The label is explicit and direct about timing and dosage of sprays and the crops on which they may be used. The label is not only a complete set of directions to the grower but protection for the consumer as well.

No pesticide can be put up for sale unless the label has received approval by USDA. Vast sums of money are invested in research to make possible the information on the label. The label has been prepared solely for you.

When reading the label, bear the following in mind:

1) If the crop you want to spray is not listed on the label, do not use the spray.

2) Do not use more than the dosage recommended on the label. Increasing the concentration increases the risk of residues.

3) Do not apply the sprays more often than recommended.

4) Do not apply nearer to harvest than recommended.

5) Follow all safety precautions listed on the label.

The label places the responsibility for careful spraying squarely on the shoulders of the producer. In order to spell this out, buyers of vegetable crops are asking for so-called certificates of compliance.

If you are asked to sign a certificate that you have complied with Food and Drug Administration and USDA regulations, we see no reason for you to refuse. It is *not* required by law, but signing the certificate emphasizes that the basic responsibility for following directions on the spray label belongs to you as a producer.

However, we are advised that some printed forms in circulation contain legal provisions extending beyond responsibility for residues. Do not sign certificates that will hold you liable for spoilage or mistreatment of your crop that can occur beyond your control. We will be glad to review and advise you on certificates about which you may be in doubt.

In order to back up with facts and evidence what you certify to on a compliance form, it is essential to keep careful spray records. Devoting a few minutes each day to recording the date, materials used, concentration, and crops sprayed will be time well spent.

Remember, your best friend is the label. Read it, know it, follow it, every day you spray. And be sure to keep as evidence a detailed diary, date book, or spray record. It goes without saying, that the directions on the label can save you from a financial catastrophe as well as preserve that most precious commodity of all—consumers' confidence in the healthful vegetables you grow. Every grower has a responsibility to himself, his neighboring growers, and growers in other states to make sure the words "harmful residues" are not applied to the vegetable industry. It's very simple—Read the Label and follow its directions to the letter.

"Sorry, lady . . . only one pair to a customer."

QUOTE-OF-THE-MONTH

"Our agricultural co-operatives are free institutions where men can use their initiative, make their own decisions, do jointly things which they couldn't dream of doing alone."

—Truman Torgerson, president Wisconsin Council of Agriculture Co-operatives

Coming Next Month

- Buyer's Guide: Where to Buy Equipment and Supplies
- Brand Names of Newer Organic Pesticides
- Vegetable Areas of America—Hawaii

HOW TO AVOID RESIDUE PROBLEMS

With malathion you can spray most fruits up to 72 hours from harvest without exceeding residue limits established by law

VEGETABLE	tomatoes	broccoli	cabbage	melons	cauliflower and Brussels sprouts	beans	peas
INTERVAL days between last spray and harvest	1	3	7	1	7	1	3

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CYANAMID SERVES THE MAN WHO MAKES A BUSINESS OF AGRICULTURE

Asgrow Mosaic-Indexed Lettuce Seed

look for this tag . . . it's your best assurance of a profitable crop

ASGROW M-I LETTUCE SEED is 99 9/10 disease-free-grown and sold by Asgrow, pioneer producer of low-mosaic lettuce seed.

NOW AVAILABLE: Great Lakes 65; Great Lakes 66; Great Lakes 118; Great Lakes 659; Number 101; Number 456.

Associated Seed Growers, Inc. affirms that the lettuce seeds in this package, if unopened,
(1) were produced from special seed stock grown by the Asgrow Breeding and Research Department;
(2) were grown under controlled production practices to prevent mosaic infection in the seed crop; and
(3) are part of a crop that has been indexed by the Asgrow Quality Control Department and found to contain less than 0.1% seed-borne mosaic.
Associated Seed Growers, Inc.
Asgrow Mosaic-Indexed
Lettuce Seeds

Asgrow Seed Company

Main Office: New Haven 2, Conn.

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